

ANNUAL REPORT
COMMERCIAL FISHERIES DIVISION
1961

CORDOVA AREA

Alaska Department of Fish and Game
Commercial Fisheries Division
P.O. Box 669
Cordova, Alaska

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INTRODUCTION

The fisheries of the Cordova area progressed, for the most part, satisfactorily throughout the 1961 season. An exception was the razor clam fishery which produced the lowest case pack in the history of the dig. Since the introduction of a king crab fishery on an increased scale in 1960 this fishery during 1961 was somewhat disappointing with no appreciable increase over the 1960 season. Expectations for a major king crab fishery were evidently premature as present utilization does not indicate much hope for expansion in the near future.

The salmon fisheries, with minor exceptions, were satisfactory during 1961. The drift gill net red salmon fishery on Copper-Bering River flats showed a substantial improvement over the past three years. The improvement in catch of red salmon along with a decrease in number of fishermen participating produced an increased economic return amounting to a season average of about \$3,665.00.

One of the brightest spots in the salmon fishery was the unexpected return of large numbers of pink salmon to the southern and eastern waters of Prince William Sound. A very limited salmon purse seine season was anticipated in 1961 based on Fish and Wildlife Service records of the spawning escapement of pink salmon in 1959.

The purse seine fishery produced a case pack (48-1# cans) of approximately 122,398 cases which compares to the 1960 pack of 70,554 when the entire Prince William Sound area was open to fishing. Because of the poor expectations for a purse seine fishery, many of the boats normally fishing Prince William Sound were registered for other areas. This left a relatively light purse seine fleet, 102 units, to participate in the fishery which resulted in an average catch per boat of about 22,000 salmon.

On the basis of an average of three fishermen per boat the monetary return per individual fisherman averaged about \$2,835.25. Approximately 85 of the boats in the fishery were local, resident vessels which caused a substantial boost in the economy of the area.

The most successful salmon fishery from a fisherman's economic point of view was the Eshamy District set and drift gill net fishery. Approximately 28 fishermen participated in the fishery with an average catch of 1,888 reds, 3,982 pinks, 883 chums and 47 coho. The average monetary value received per fisherman was \$5,396.00.

Provisions were made in the 1961 season to harvest a run of red salmon from the Coghill District which is not harvested during the regular Prince William Sound seasons. An average of about 25 fishermen participated in the drift gill net fishery and caught 12,961 reds, 10,019 pinks, 2,412 chums and 13 coho. The fishery was a success from the standpoint of management, although it will probably be necessary to make adjustments in fishing boundaries to allow a greater harvest. The average catch per fisherman was 518 reds, 401 pinks, 96 chums and about one coho with a value of \$1,016.00.

Dungeness crab appeared to be in relatively good condition during most of the year and large catches were taken, particularly from "outside" areas along the gulf. The harvest of 2,756,194 pounds of dungeness crab in 1961 compares to the high harvest of 2,877,020 pounds in 1950. Approximately 65 boats participated in the fishery, of which, about 35 boats also fished "outside" waters. The average season catch per boat produced a value of about \$1,390.00 for "inside" fishing and \$2,750.00 for "outside" fishing.

SALMON FISHING SEASONS

Prince William Sound (General Districts):

The general purse seine area of the Sound was not scheduled to open to purse seine fishing in 1961, however, provisions were made to handle a limited season by field announcement if the runs of salmon permitted a harvest.

Resulting runs of pink and chum salmon permitted a harvest in the Eastern, Southeastern and Montague districts. Several emergency regulations were promulgated to handle the season. These were as follows:

Emergency regulation No. 3, July 27, 1961

Section 111.05 shall be amended to read as follows:

(a) Eastern and Southeastern Districts: Salmon may be taken from 6:00 AM to 6:00 PM, August 1, 1961 and from 6:00 AM to 6:00 PM, August 3, 1961. If the conditions of the stocks warrant, additional fishing days will be allowed.

Section 111.06 shall be amended to read as follows:

(a) In the Eastern and Southeastern Districts, fishing will be allowed each day of the opening seining season.

Section 111.12 shall be amended to read as follows:

Change, Salmon gill net specifications and operation, to read, Salmon net specifications and operation.

Add (e) It shall be unlawful for fishermen registered for purse seining in Prince William Sound to have on board any vessel, an unsealed purse seine in any closed District.

Section 111.21 shall be amended to read as follows:

(a) Change 111.21 (c) as follows: Within the stream behind the markers.

(b) Change 111.21 (j) as follows: Within a line from 60° 55' N. latitude, 146° 38' 02" W. longitude to 60° 56' 27" N. latitude, 146° 36' 02" W. longitude and Indian Creek behind the markers.

(c) Change 111.21 (k) as follows:

(1) Port Valdez: Within the streams of Port Valdez behind the markers.

(2) Sawmill Bay: Behind the markers of the streams within the bay.

End of regulation

Emergency regulation No. 4, August 2, 1961

Section 111.05 shall be amended to read as follows:

(a) Eastern and Southeastern districts shall be closed to fishing from 7:00 PM August 2, 1961 to 6:00 AM August 4, 1961.

(b) Eastern and Southeastern districts: Salmon may be taken from 6:00 AM to 6:00 PM August 4, 1961. If the condition of the stocks warrant, additional fishing days will be allowed.

Section 111.06 shall be amended to read as follows:

(a) In the Eastern and Southeastern Districts, fishing will be allowed each day of the open seining season.

Section 111.12 shall be amended to read as follows:

Change, Salmon gill net specifications and operation, to read, Salmon net specifications and operations.

Add (e) It shall be unlawful for fishermen registered for purse seining in Prince William Sound to have on board any vessel an unsealed purse seine in any closed district.

Section 111.21 Closed Waters. Shall be amended as follows:

Anchor Cove on Hinchinbrook Island - Behind the markers at the mouth of the lagoon.

Constantine Harbor - Behind the markers in the upper bay.

Makaka Point Creek located about one half mile west of Makaka Point - Behind the markers near the creek mouth.

Irish Cove in Port Fidalgo - Behind the markers in the bay.

Fish Bay in Port Fidalgo - Behind the markers near the head of the bay.

Olsen Bay in Port Gravina Bay - Behind the markers near the head of the bay.

Sheep Bay - Within the streams at the head of the bay and behind the markers in the upper lagoon.

End of regulation.

Emergency regulation No. 5, August 7, 1961

Section 111.05 shall be amended to read as follows:

(a) Eastern, Southeastern and Montague Districts: Salmon may be taken from 6:00 AM to 6:00 PM, August 8, 1961. If the conditions of the stocks warrant, additional fishing days will be allowed.

Section 111.06 shall be amended to read as follows:

(a) In the Eastern, Southeastern and Montague Districts, fishing will be allowed each day of the open seining season.

Section 111.12 shall be amended to read as follows:

Change, Salmon gill net specifications and operation, to read, Salmon net specifications and operation.

Add (e) It shall be unlawful for fishermen registered for purse seining in Prince William Sound to have on board any vessel, an unsealed purse seine in any closed District.

Section 111.21 Closed waters, shall be amended to read as follows:

(j) Galena Bay. Within a line from 60° 56' 20" N. lat., 146° 35' 25" W. long., to 146° 38' 02" W. long., 60° 55' 40" N. lat.

(k) Valdez Arm.

(1) Port Valdez. South of a line extending from the west entrance of Anderson Bay to the Southern dock at the town of Valdez.

(2) Jack Bay. East of 146° 35' 32" W. long., and within 1,000 yards of the terminus of the west stream on the south shore and behind the markers near the east stream on the south shore.

End of regulation.

Emergency regulation No. 6, August 11, 1961

Section 111.05 shall be amended to read as follows:

(a) Eastern, Southeastern and Montague Districts: Salmon may be taken from 6:00 AM to 6:00 PM, August 12, 1961 and from 6:00 AM to 6:00 PM, August 13, 1961. If the conditions of the stocks warrant, additional fishing days will be allowed.

Section 111.06 shall be amended to read as follows:

(a) In the Eastern, Southeastern and Montague Districts, fishing will be allowed each day of the open seining season.

Section 111.12 shall be amended to read as follows:

Change, Salmon gill net specifications and operation, to read, Salmon net specifications and operation.

Add (e) It shall be unlawful for fishermen registered for purse seining in Prince William Sound to have on board any vessel, an unsealed purse seine in any closed District.

Section 111.21 Closed waters, shall be amended to read as follows:

(a) Constantine Harbor. Behind the markers in the upper bay.

(c) Sheep Bay. Within 800 yards of the terminus of the stream at the head of the bay and including all waters of the upper lagoon.

(e) Olsen Bay. Behind the markers near the head of the bay.

(g) Irish Cove. South of 60° 46' 10" N. latitude.

(i) Fish Bay, north side of Port Fidalgo. Within 1,000 yards of the terminus of the stream at the head of the bay.

(j) Galena Bay. Within a line from 60° 56' 20" N. lat., 114° 35' 25" W. long. to 60° 55' 40" N. lat., 114° 38' 02" W. long. and within 500 yards of the terminus of Indian Creek.

(cc) Makaka Point Creek, located about one-half mile west of Makaka Point. Within 500 yards of the terminus of the stream mouth.

(dd) Canoe Passage, Hawkins Island. All waters of the Passage east of the narrows at 114° 6' 30" W. longitude.

(ee) Windy Bay, Hawkins Island. Within 1500 yards of the terminus of the stream at the head of the bay.

(w) Hinchinbrook.

(1) (A) Anderson Bay. All waters within the bay.

(1) (B) Double Bay. From 60° 27' 45" N. lat., 114° 29' W. long., to 60° 23' 10" N. lat., 114° 27' W. longitude.

End of regulation

Emergency regulation No. 7, August 14, 1961.

Section 111.05 shall be amended to read as follows:

(a) Eastern, Southeastern and Montague Districts: Salmon may be taken from 6:00 AM to 6:00 PM, August 14, 1961. If the conditions of the stocks warrant, additional fishing days will be allowed.

End of regulation.

Emergency regulation No. 8, August 14, 1961.

Section 111.05 shall be amended to read as follows:

(a) Port Fidalgo east of 114° 25' W. long: Salmon may be taken from 6:00 AM to 6:00 PM, August 15, 1961. If the conditions of the stocks warrant, additional fishing days will be allowed.

Section 111.12 shall be amended to read as follows:

Add (f) It shall be unlawful for fishermen registered for purse seining in Prince William Sound to have on board any vessel, an unsealed purse seine in waters outside Port Fidalgo west of 114° 25' W. long., after 6:00 AM August 16, 1961.

End of regulation.

Emergency regulation No. 9, August 15, 1961.

Section 111.05 shall be amended to read as follows:

(a) Port Fidalgo east of 114° 25' W. long: Salmon may be taken from 6:00 AM to 6:00 PM each day of the fishing season beginning August 16, 1961 and continuing until closed by field announcement.

End of regulation.

Emergency regulation No. 10, August 18, 1961.

Section 111.05 shall be amended to read as follows:

The purse seine fishing season in Port Fidalgo shall end at 6:00 PM, Friday, August 18, 1961.

End of regulation.

Eshamy District:

The Eshamy District was open to drift and set gill nets from 12:00 noon, July 1, to 12:00 noon, August 18. The weekly fishing period extended from 12:00 noon Monday through 12:00 noon Saturday.

Coghill District:

The Coghill district is a new district established in 1961 to harvest a run of red salmon not normally taken during the regular purse seine season. The season opened to drift gill net fishing at 12:00 noon June 12 and closed 12:00 noon July 14. The weekly fishing period extended from 12:00 noon Monday to 12:00 noon Saturday.

Copper River and Bering River Districts:

The open fishing season on the Copper River and Bering River flats was from May 15 to September 22, except trolling, which was open from January 1 to December 31, 1961. The weekly fishing period allowed salmon to be taken from 6:00 AM Monday to 6:00 AM Saturday, except, that prior to August 7, fishing was permitted from 6:00 AM Monday to 6:00 AM Wednesday and from 6:00 PM Thursday to 6:00 AM Saturday.

ECONOMIC CONDITIONS

The commercial fishery of the Cordova area was profitable to most fishermen in 1961. An exception was the razor clam fishery and the Coghill District salmon fishery. Other fisheries including Copper and Bering River, Eshamy and Prince William Sound salmon fisheries and the dungeness crab fishery showed an increase in the average season catch per fishermen for 1961. This was reflected in both Cordova and Valdez communities with increased purchasing, building and vacation trips during the fall and winter of 1961 and in the spring of 1962. Local business people commented that a number of long outstanding bills were paid in 1961.

The general economic impression for 1961 was a profitable increase over the last several seasons.

OPERATORS, IDLE AND NEW PLANTS

Several plants did not operate in 1961 due to the closed purse seine season and because of the small run of pinks anticipated for Prince William Sound.

The following is a list of idle plants.

1. San Juan Packing Company, Sawmill and McClure Bay; 2. Port Ashton Packing Company, Sawmill Bay; and 3. Valdez Fisheries, Valdez.

New England Fish Company, Orca Bay, was also idle, however, the company was combined with Western Fisheries, Inc., and Alaska Packers Association for the salmon season. Western Fisheries, Inc., canned for the combination and Alaska Packers Association operated during the razor clam season.

Table 1 lists the fishery operators in the Cordova area in 1961. Several

TABLE 1. LIST OF FISHERY OPERATORS, CORDOVA AREA, 1961

SALMON CANNERIES (Shoreside and Freezer Ships)				
Name and Address	Location	Superintendent Bookkeeper	Number of Lines	Canned for Other Companies
Alaska Packers Association 412 Bell Street Seattle, Washington	Ocean dock	Vernon Paulsen Floyd Riegs		(Canned by Western Fisheries)
Alaska Reefer Fisheries 613 Security Building Seattle, Washington		Steve Villicich	Fish Buyer (Freezer Ship)	(Transported out of area)
Bellingham Canning Co. Yakutat, Alaska		R.A. Welsh	Fish Buyer (Freezer Ship)	(Transported out of area)
Crystal Falls Fish Co. 266 East 43 Street Seattle, Washington	Crystal Falls	Irind Utness Pauline Utness	1 - 1# talls	
Glacier Packing Co. Box 176 Cordova, Alaska (Small Family Operation)	Big Point	Percy Conrad	1 - $\frac{1}{2}$ # flats. 2#s	
P.E. Harris Company 1220 Dexter Norton Bldg. Seattle, Washington		Lawrence Freeburn	Fish Buyer (Freezer Ship)	(Transported out of area)
Clarence Moy Pelican, Alaska		Clarence Moy	Fish Buyer (4 boats)	(Transported out of area)
New England Fish Company Box 120 Cordova, Alaska	Orca Bay	Jim Forsell John Bagli		(Canned by Western Fisheries)
North Star Fisheries 1500 Westlake North Seattle, Washington		August Mardesich	Fish Buyer (Freezer Ship)	(Transported out of area)

CORDOVA DISTRICT, continued

SALMON CANNERIES (Shoreside and Freezer Ships)

Name and Address	Location	Superintendent Bookkeeper	Number of Lines	Canned for Other Companies
Pacific American Fisheries 401 Harris Avenue Bellingham, Washington	Port Ashton	Andre A. Mattson <u>S.B. Osman</u>	Fish Buyer	Canned by Seldovia-Port Graham Consolidation & Excursion Inlet
Port Ashton Packing Corp. 401 Harris Avenue Bellingham, Washington	Port Ashton	Andre A. Mattson <u>S.B. Osman</u>	Fish Buyer	Canned by Seldovia-Port Graham Consolidation & Excursion Inlet
San Juan Fishing & Packing Co. Box 3086 Seattle, Washington	Port San Juan	<u>Al O'Leary</u>	Fish Buyer	Canned by Seldovia-Port Graham Consolidation & Excursion Inlet
Shelter Cove Packing Co. Box 863 Cordova, Alaska (Small Family Operation)	Fleming Spit	<u>Jere Griffin</u>	1 - $\frac{1}{2}$ # Flats	
T.J. Trucking 406 Broadway Valdez, Alaska	Valdez, Alaska	<u>Tom Jetzeck</u>	Fish Buyer	Canned by Eward Packing Company in Anchorage, Alaska
Washington Fish & Oyster Co. Box 878 Cordova, Alaska	City dock	Howard Strand <u>Betty Strand</u>	1 - $\frac{1}{2}$ # Flats 1 - $\frac{1}{4}$ #	
Western Fisheries, Inc. 109 Colman Building Seattle, Washington	Ocean dock	Robert McLean <u>C.H. Wright</u>	1 - $\frac{1}{2}$ # Flats 2 - $\frac{1}{4}$ # tails	Alaska Packers Association New England Fish Company

CORDOVA DISTRICT, continued

SALMON CANNERIES, (Floating)

Name & Address	Location	Superintendent Bookkeeper	Number of lines	Canned for Other Companies
Bering Sea Fisheries, Inc. 312 Colman Building Seattle, Washington	Valdez	<u>Martin J. Hegeberg</u>	1 - 1/4 tails	
Copper River Co-op, Inc. Box 139 Cordova, Alaska	Odiak Slough	<u>William J. Clemence</u> <u>Pat Rollins</u>	1 - 1/2 flats	

FRESH, FROZEN AND CURED PRODUCTS

Point Chehalis Packers Westport, Washington	City dock	<u>James Poor</u> <u>Fern Swanson</u>	Frozen Salmon, halibut
Washington Fish & Oyster Box 878 Cordova, Alaska	City dock	<u>Howard Strand</u> <u>Betty Strand</u>	Frozen Salmon

SHELLFISH PROCESSORS

Name and Address	Location	Superintendent Bookkeeper	Product
Alaska Packers Association 412 Bell Street Seattle, Washington	Ocean dock	<u>Vernon Paulsen</u> <u>Floyd Riggs</u>	Canned clams
Big Point Seafoods, Co. Box 53 Cordova, Alaska	Big Point	<u>Karl E.C. Bradlee</u>	Canned clams and dungeness crab
C.O. Buck Canning Co. Boswell Bay Cordova, Alaska	Boswell Bay	<u>C.O. Buck</u>	Canned clams
Fairmount Island Seafoods Fairmount Island Cordova, Alaska	Wells Bay near east entrance on outside	<u>Lyman L. Fletcher</u>	Fresh and Canned shrimp
Glacier Packing Company Box 176 Cordova, Alaska	Big Point	<u>Percy R. Conrad</u>	Canned clams
Pat O'Brien Cordova, Alaska	Cordova	<u>Pat O'Brien</u>	Fresh razor clams
Point Chehalis Packers Westport, Washington	City dock	<u>James Poor</u> <u>Bern Swanson</u>	Canned dungeness and king crab razor clams for bait
Shelter Cove Packing Co. Box 863 Cordova, Alaska	Fleming Spit	<u>Jere Griffin</u>	None reported
Washington Fish & Oyster Co. Box 878 Cordova, Alaska	City dock	<u>Howard Strand</u> <u>Betty Strand</u>	Canned dungeness crab
Western Fisheries 309 Colman Building Seattle, Washington	Ocean dock	<u>Robert Morgan</u> <u>C.H. Wright</u>	Canned dungeness crab (Nelson Crab & Oyster Co., Neleo #1 (Floater) bought some crab (8/20-9/20/61) (resale) and took them to Tokeland, Washington

operators purchased fish in the Cordova area during the limited purse seine season and hauled the salmon to other areas for processing.

PRICES OF FISH AND SHELLFISH

Prices paid to fishermen for salmon and shellfish showed some change upward in 1961, however, the prices paid for most species remained the same as 1960.

Table 2a and 2b shows the comparative prices paid for salmon and shellfish for several years. Salmon price changes include a three cent increase for red salmon and a ten cent increase for silver salmon on Copper River and Bering River areas. The only change in shellfish prices was a one cent per pound increase in razor clams.

The prices quoted in table 2a and 2b are the general price agreement of local unions and major packers. Each year various prices may be paid by independent operators and others. For example, in 1961, razor clams for bait sold for 0.25 cents per pound in the shell delivered at Point Chehalis Packers and two dollars each was paid for red salmon delivered at the plant. Washington Fish and Oyster Company, cold storage and canning operation was reported to be paying a one or two cent differential for pinks and chums delivered at the plant during the Prince William Sound purse seine season.

NUMBER OF SALMON PER CASE

The number of salmon per case for Prince William Sound since 1954 and for Copper River since 1951 are summarized in Table 3a and 3b, respectively. Some variation in numbers of fish per case is evident through the years as would be expected. Kings show the least variation followed by reds, chums and coho. Pink salmon show the most variability.

The two year life of pink salmon would give less time to compensate for years when food is scarce which may account for the greater variability in size of this species.

TABLE 2a. Summary of Prices Paid for Salmon, 1952-1961

YEAR	RED	KING	COHO	CHUM	PINK
1952	\$1.15	\$4.15 ea.	\$1.05	\$0.57	\$0.415
1953	1.25	4.15	1.05	0.57	0.415
1954	1.25	4.15	.90	--	--
1955	1.25	4.15	1.05	0.57	0.415
1956	1.35	4.15	1.10	0.60	0.45
1957	1.39	4.15	1.10	0.635	0.45
1958	1.39	0.21/lb.	1.10	0.635	0.45
1959	1.40	0.22	1.10	0.635	0.45
1960	1.47	0.23	1.15	0.68	0.48
1961	1.50	0.23	1.25 C.R. 1.15 P.W.S.	0.68	0.48

TABLE 2b. Summary of Prices Paid for Shellfish and
Miscellaneous Fish Products
(1950-1961)

Year	Razor Clams	Dungeness Crab	Cockle	King Crab	Other
1950	\$0.12/lb.	\$0.12/lb <u>1/</u>	\$6.00/100# sack	--	--
1951	0.15	0.085	8.00	--	--
1952	0.13	0.085	8.00	--	--
1953	0.13	0.085	--	--	--
1954	0.13	0.08	--	--	--
1955	0.13	0.08	--	--	--
1956	0.13	0.08	0.03/lb.	--	--
1957	0.13	0.05	--	--	Salmon eggs 0.07/lb.
1958	--	0.06	--	--	--
1959	0.13	0.08	--	0.08	--
1960	0.14	0.10	--	0.10	--
1961	0.15	0.10	--	0.10	--

1/ Prices for Dungeness crab \$0.14 - 0.15 caught outside.

TABLE 3a. Number of Salmon Per Case, 1954-1961

(Prince William Sound)

Year	Red	Coho	Pink	Chum
1954	9.5	9.7	16.5 <u>1/</u>	---
1955	9.6	9.4	15.0	8.7
1956 <u>2/</u>	---	---	---	---
1957	9.8	10.5	17.4	8.5
1958 <u>2/</u>	---	---	---	---
1959	C L O S E D S E A S O N			
1960	13.0	13.2	24.4	9.8
1961	10.4	9.0	17.0	9.3

1/ Estimated number of salmon per case taken from the average of other years.2/ The number of salmon per case not separated by area.TABLE 3b. Number of Salmon Per Case, 1951-1961
(Copper and Bering Rivers)

Year	King	Red	Coho	Pink	Chum
1951 <u>1/</u>	3.4	11.6	8.1	18.1	9.1
1952	3.4	11.6	8.1	18.1	9.1
1953 <u>2/</u>	3.4	11.1	7.0	16.5	9.1
1954	3.2	11.7	7.5	---	---
1955	3.5	11.5	8.6	---	---
1956 <u>2/</u>	3.6	11.2	8.3	26.0	10.2
1957	3.8	11.6	---	---	---
1958 <u>2/</u>	3.0	11.5	8.3	17.0	9.1
1959	3.2	12.9	8.6	---	---
1960	3.6	13.4	9.3	---	---
1961	3.82	12.0	9.24	17.0	9.3

1/ Estimated number of salmon per case taken from the average of other years.2/ The number of salmon per case not separated by area.

COPPER RIVER SALMON

COMMERCIAL FISHERY

GENERAL

The salmon season opened on May 15 and all fishermen and cannery operators began immediate participation since a price settlement had been agreed upon earlier.

Fishing success was generally slow during the first week of the season (Table 4 and 5) but the catch immediately reached a peak during the second week and maintained a high level throughout the season.

The fishery progressed satisfactorily throughout the fishing season with a considerable improvement over the past three years. The case pack of 44,371 reds (Table 4) approached the eleven year average case pack of 50,296 (Table 7).

The king salmon pack from the Copper River area was 2,161 cases, a decrease from the 1960 pack, and the lowest pack of king salmon since 1949 when the case pack dropped below 2,000 cases. The pack of 2,161 cases of kings compares to an eleven year average of 3,931 cases (Table 7).

The coho salmon case pack of 14,445 shows a decrease in comparison to the 1960 pack of 15,497 and compares to the 11 year average of 13,876 cases.

Drift gill net fishing on Copper River flats continued without interruption throughout the season until a special opening was announced August 1 for purse seine fishing. The announcement of a purse seine fishery caused a large decrease in drift net fishermen (Table 4) during week 31. Fishermen began returning to the drift gill net coho season during week 33 with peak fishing effort occurring during the last week of the season.

Generally, the salmon season on Copper River flats showed an improvement over the last three years and approached other successful fishing years.

RED SALMON

The red salmon fishery, briefly summarized above, was generally successful and showed an improvement over the past three years (Table 6 and 7). Catches were small during the first week of the season but immediately reached a peak during the second week and held up good through week 29 (Table 4).

A fish price settlement (Table 2a) was reached early by the local union which allowed a full participation of fishermen in the fishery when the season opened May 14. Peak fishing effort occurred during the fourth week of the season when 337 boats were fishing, however, the peak catch of 85,500 reds was taken during the second week of the season by 322 boats.

Table 5 gives the red salmon catch by company and week. The major portion of the catch was canned by Alaska Packers Association, New England Fish Company and Western Fisheries Company. These companies formed an association with Western Fisheries Company canning for all three operations.

The 1961 season catch of 532,455 reds shows a substantial increase over the past three seasons and closely approaches the average for the eleven year period beginning in 1951 (Table 6). The season case pack is summarized in Table 7 for the years beginning in 1951. The 1961 pack of 44,371 compares to the eleven year average of 50,296 cases and to the average pack since 1927 of 56,605 cases.

TABLE 4. Copper River Red Salmon - 1961

Week	Case Pack* (48-1#/cs.)	Total Catch	No. Frozen	No. of Boats	No. of Deliveries	Ave. Catch Per Boat	Fathoms of Gear **
20	1,649	19,793	262	229	485	86	34,350
21	7,125	85,500	1,423	322	1,507	266	48,300
22	5,489	65,863	1,595	323	1,110	204	48,450
23	6,472	77,658	618	337	1,323	230	50,550
24	4,882	58,584	1,486	298	1,197	197	44,700
25	4,114	49,362	2,511	257	989	192	38,550
26	3,810	45,715	1,865	251	989	182	37,650
27	5,039	60,472	1,713	268	1,036	226	39,930
28	3,332	39,985	2,338	259	861	154	38,850
29	1,724	20,686	526	219	580	94	32,850
30	690	8,282	791	173	383	48	25,950
31	27	323		7	13	46	1,050
32	8	96		5	24	19	750
33	0	9		23	49	--	3,450
34	1	12		75	212	--	11,250
35	8	111		163	725	--	24,450
36	1	4		171	743	--	25,650
Total	44,371	532,455			12,101	1,944	

* Average reds per case, 12.

** Based on 150 fathoms per boat.

TABLE 5. Red Salmon Catch By Company and Week - 1961
(Copper River)

Week	Alaska Packers	C.R. Co-op	Crystal Falls	Point Chehalis	Glacier Packing Co.	Big Point	Shelter Cove	New England Fish Co.	Wash. Fish & Oyster	Western Fisheries
20	6,793	1,478	119	231				3,486	31	7,731
21	26,618	9,416	1,758	612			24	18,714	811	27,505
22	19,433	7,384	1,524	1,078				15,177	517	20,981
23	20,149	5,686	1,755	334	730	70		19,908	284	28,814
24	19,895	1,572	2,781	577	500			12,868	909	19,979
25	17,122		2,483	1,669	450			11,852	842	15,560
26	15,255		2,224	1,074				11,829	791	13,988
27	19,320		3,919	1,304	480			12,568	411	22,785
28	12,802		2,407	1,459	405			2	879	13,223
29	6,147		1,026	371	130			1	703	7,719
30	2,847		270	297					100	2,862
31	229									
32	96									
33	6									3
34	2		1					6		3
35	5							1		1
36	2							1		1
Totals	166,721	25,536	20,267	9,006	2,695	70	24	106,413	6,278	181,155

KING SALMON

The catch of king salmon in 1961 did not show much change from the last several years. The catch of 8,464 is a decrease from the past two years and is 62.5 per cent of the eleven year average of 13,514 (Table 6).

Table 8 shows the weekly fishing effort, catch and other statistics by week for the season. The catch reached a peak during the second week of the fishery and coincides with the red salmon peak catch. Peak fishing effort occurred during week 23 and continued strong throughout the king salmon season.

Table 6 and 7 shows the annual catch and case pack, respectively, of king since 1951. Table 9 gives the catch by company by week.

COHO SALMON

In the 1961 season a few coho were caught as early as week 22, May 28 to June 3, however, the main coho run did not appear until early August. The catch reached a peak during week 36 and tapered off through the last two weeks of the season (Table 10). The season catch of 133,980 compares favorably with the past two years and is above the eleven year average of 119,812 (Table 6).

Table 7 shows the comparable case pack of coho from 1951 to 1961. Table 11 gives a summary of the 1961 coho catch by company by week during the season.

RUNS AND ESCAPEMENT 1/

Considerable effort was made in 1961 to obtain reliable spawning escapement data for the Copper River red and king salmon runs. Extensive aerial surveys were made in known spawning areas on upper Copper River areas and aerial surveys were conducted in tributaries adjacent to Copper River flats. The aerial surveys were supplemented by ground surveys in some streams, however, the main objective of ground surveys was the recovery of tagged salmon.

In addition, tagging studies were conducted within the boundaries of the Copper River flats drift gill net fishery to provide additional information on the timing and migration patterns. A fishwheel recovery and tagging study was initiated in the lower Copper River in 1961 to supplement the drift gill net tagging and to provide additional data on the escapement in Copper River.

The results of the salmon spawning surveys is summarized in Table 47 and 48. The estimated spawning escapement is a minimum figure since several of the minor spawning areas were not surveyed and because some streams were surveyed only once. The overall escapement to Copper River spawning streams is estimated to be approximately 87,800 reds and to Bering River spawning areas and Martin Slough, 12,880 red salmon.

A total of 411 king salmon were observed on the spawning grounds of Copper River. Additional work is planned to determine spawning peaks of the various runs and to determine the relative stream life of the Copper and Bering River salmon runs.

1/ Refer to separate report, "Annual Progress Report of the Joint Sport and Commercial Fish Investigations of the upper Copper River Drainage System, 1961 Segment", for details of surveys.

TABLE 6. COPPER RIVER DRIFT GILL NET SALMON CATCH
(1951 - 1961)

Year	Kings	Reds	Cohos	Pinks	Chums
1951 <u>1/</u>	17,439	451,943	154,418	101	48
1952	29,355	1,136,316	163,740	6,284	1,091
1953 <u>2/</u>	12,198	563,708	29,866	166	46
1954	15,764	1,099,564	157,941	135	272
1955	20,438	636,705	158,208	149	12
1956	11,702	540,575	109,248	1,131	54
1957	8,151	541,637	58,705	1,841	1,224
1958	6,965	307,342	81,610	8,872	181
1959	9,833	299,782	132,259	940	67
1960	8,678	360,667	137,957	375	314
1961	8,464	532,455	133,980	1,639	106
Average	13,544	588,245	119,812	1,967	310

1/ In 1951, 70 reds and 18 coho were caught by set gill net gear.

2/ No major operation during coho season.

Table 7. COPPER RIVER SALMON CASE PACK
(1951 - 1961) 1/

Year	Kings	Reds	Cohos	Pinks	Chums
1951	5,129	38,961	19,064	6	5
1952	8,634	97,958	20,214	347	120
1953 <u>2/</u>	3,588	50,785	4,267	10	5
1954	4,926	93,980	21,059	8	32*
1955	5,839	55,366	18,396	10	1+
1956	3,251	48,266	13,162	44	5
1957	2,145	46,693	5,590	106	144
1958	2,322	26,725	9,833	522	20
1959	3,073	23,239	15,379	81	10
1960	2,174	26,915	15,497	--	--
1961	2,161	44,371	14,445	--	--
Average <u>3/</u>	3,931	50,296	13,876	126	38

* Estimated

1/ Estimated total case pack (48-1#/case) based on reported number salmon per case.

2/ No major operation during coho season.

3/ Average case pack since 1927 excluding the strike years of 1935 and 1948 for kings, 4,889 and reds, 56,605.

TABLE 9. COPPER RIVER KING SALMON - 1961

Week	Case Pack (48-1#/cs.)	Catch (No. Fish)	No. Frozen	Pounds	Ave. Weight	No. Boats	No. Deliveries	Ave Catch Per Boat	Fathoms Red Gear
20	263	1,072	68	22,834	21.3	229	485	4.7	34,350
21	1,105	4,299	76	88,559	20.6	322	1,382	13.4	48,300
22	375	1,462	28	34,211	23.4	323	1,110	4.5	48,450
23	271	1,045	13	27,170	26.0	337	1,323	3.1	50,550
24	109	428	15	11,342	26.5	298	1,197	1.4	44,700
25	19	83	12	2,058	24.8	257	989	0.3	38,550
26	9	37	1	907	24.5	251	989	---	37,650
27	3	12	1	288	24.0	268	1,036	---	39,930
28	3	11		288	26.2	259	861	---	38,850
29	1	4		900	22.5	219	580	---	32,850
30	3	11		138	12.5	173	383	---	25,950
Total	2,161	8,464	214	188,695	22.3		10,335		

Average king per case, 3.82

TABLE 9. KING SALMON CATCH BY COMPANY AND WEEK - 1961
(Copper River)

Week	Alaska Packers	C.R. Co-op	Crystal Falls	Glacier Packing	New England Fish Co.	Point Chehalis	Shelter Cove	Wash. Fish & Oyster	Western Fisheries	Restaurants & Markets
20	268	70	11		143	27		39	403	2
21	1,332	399	54		986	47	8	26	1,457	3
22	321	112	24		390	15		13	582	
23	255	49	8	30	269	12		1	415	
24	104	13	9		125	6		9	161	
25	21		2		29	12			25	
26	19				8			1	8	
27	2				4			1	5	
28	6				64				2	
29	2				26				1	
30	2									
Total	2,332	643	108	30	2,044	119	8	90	3,059	5

Cannery price for kings, 23 cents per pound.

TABLE 10. COPPER RIVER COHO SALMON - 1961

Week	Case Pack	Catch	Frozen	No. Boats	No. Deliveries	Ave. Catch Per Boat	Ave Coho Per Case	Fathoms of Gear
22	0	1		323	1,110	---	---	48,450
23	3	28		337	1,323	---	9.7	50,550
24	28	260		298	1,197	1	9.3	44,700
25	0	0		257	989	---	---	38,550
26	9	90		251	989	---	10.0	37,650
27	0	2		268	1,036	---	---	40,200
28	0	1		259	861	---	---	38,850
29	1	42	10	219	580	1	---	32,850
30	31	346	59	173	383	2	9.4	25,950
31	0	7		7	13	1	---	1,050
32	0	233	262	5	24	46	---	750
	147	1,358		23	49	59	9.2	3,450
34	838	7,764	15	75	212	103	9.2	11,250
35	3,709	34,380	100	163	725	211	9.2	24,450
36	4,480	41,411		171	743	242	9.2	25,650
37	3,483	32,199		159	614	203	9.2	23,850
38	1,716	15,858		123	344	129	9.2	18,450
Total	14,445	133,980	446		11,197		9.25	

TABLE 11. COHO SALMON CATCH BY COMPANY AND WEEK - 1961
(Copper River)

Week	Alaska Packers	Crystal Falls	New England Fish Co.	Clarence Moy	Point Chehalis	Wash. Fish & Oyster	Western Fisheries
27			2				
29			11		10		2
30	109	18	44		59		121
31	7						
32	233						
33	744	317	65				232
34	3,887	1,892	578			21	1,268
35	13,836	1,344	6,659	1,859		2,606	8,373
36	15,706	1,501	7,267	2,505		4,859	9,693
37	11,132	1,550	4,571	1,592		4,387	8,959
38	5,137	486	1,976	837		3,854	3,560
Total	50,791	7,108	21,173	6,793	69	15,727	32,208

SUBSISTENCE FISHERY

Subsistence fishing for Copper River runs of salmon is mainly located on the upper river, although some fishing is done on the Copper River delta each year. Records of subsistence fishing is incomplete or lacking entirely for some years prior to statehood (Table 13). Since 1960, regulations have required a permit to fish for subsistence purposes and in 1961, the commercial fishing regulations required a permit and a record of catch totals, submitted to the Department. Data on subsistence catches has been more complete since records of catches have been required by regulations, (Table 12 and 13). Spot checks were made of the subsistence fishery in 1961 to determine the validity of reports of catches which showed the reports to be reliable in most cases. Some changes in regulations and survey methods are contemplated to improve catch data records in 1962.

Table 12 shows the breakdown of the subsistence fishery by area, gear and species taken. The upper river fishery takes the majority of the subsistence fish mainly by Indian fishwheel and to a lesser extent by dipnets, Table 12.

In 1961, the subsistence fishery catch was about 15 per cent of the upper Copper River run of red salmon.

TABLE 12. SUBSISTENCE FISHERY, 1961

	No. 1/ Fishermen	Gear	Red	King	Coho	Pink 3/	Chum 3/	Other 2/	Unknown
Upper Copper R.	59	Fishwheel	12102	317	394	148	37	14	
Upper Copper R.	80	Dipnets	1748	29	108	22	27	219	87
Upper Copper R.	23	Fishwheel & Dipnet	1234	39	48	17	24		
Upper Copper R.	4	Spear & Gaff						406	
Upper Copper R.	2	Unknown	388	3		1			
Copper River Delta	14 168	Gillnet	137	60	99			382	
Prince William Sound	12	Gillnet	41	1	123	700	3		
Prince William Sound	1	Hook & Gaff				32			
Total	194		15650	449	772	920	91	1021	87

1/ Fifty-five reports were received which indicated no fish were taken. In addition, 172 other permits were issued for which no report was received.

Includes whitefish, trout and lamprey.

2/ Pink and chums both reported taken from the upper Copper River, however, these have not been verified. Neither of these salmon have been observed in subsistence catches from the upper Copper River.

TABLE 13. SUBSISTENCE FISHING, UPPER COPPER RIVER, 1948-1961 1/

Year	No. Fishermen	Reds	Kings	Cohos	Pinks	Chums	Other 5/	Unknown
1948	2/							5100
1949	2/							5500
1952	3/	1601	535					
1954	4/	3057	88				1	
1957	3/	7241	281	108			123	
1960	60	6739	136	25	15	167	100	
1961	4/ 194/166	15472	388	550	188	88	639	87

1/ Data from years 1948, 1949, 1952, 1954, 1957, 1960 and 1961. Other years not reported.

2/ Estimated catches probably obtained by interview.

3/ Reported catch.

4/ Data from sample checks of fishwheels. Observations of fish in boxes of wheel, drying racks and reports of fishermen.

Includes steelhead, whitefish, trout and lamprey.

Fifty-five reports were received which indicated no fish were taken. In addition, 172 other permits were issued for which no report was received.

BERING RIVER SALMON

Commercial Fishery

GENERAL

The commercial fishing season at Bering River with drift gill nets opened on May 15 and continued without interruption until season closed on September 22. Because of the timing of the salmon runs, no fishing was done until the week beginning on June 3. Fishing was slow during the first week but improved sharply during the third week when the catch was 18,661 red salmon, Table 14. Fishing continued good until the end of week 26 and dropped off sharply until the end of the red salmon run. The 1961 catch of red salmon from Bering River is the highest recorded since 1951, Table 15 and 16. (Prior to 1951, Bering River catches reported with Copper River).

Fishing for coho salmon began during the week of August 19 and continued until the season closed on September 22. Table 17 shows a summary of the coho salmon fishery and Table 15 and 16 shows the catch and case pack since 1951. The case pack, Table 16, in 1961 was slightly below the eleven year average of 6,100 cases.

RUNS AND ESCAPEMENT

Data on the runs and escapement in the Bering River drainage is incomplete, however, some attempt was made to provide needed escapement information by ground and aerial surveys. Results of these surveys is summarized in Table 48.

TABLE 14. BERING RIVER RED AND KING SALMON - 1961

Week	RED SALMON						KING SALMON	
	Case Pack (48-1#/cs.)	Total Catch	No. Boats	No. Del.	Ave. Catch Per Boat	Fathoms Gear	Kings	Case Pack
23	177	2,123	9	9	236	1,350	2	
24	1,467	17,604	43	210	409	6,450	14	4
25	1,555	18,661	43	202	434	6,450	8	2
26	1,037	12,440	39	173	319	5,850	3	1
27	313	3,759	10	52	376	1,500	2	1
28	41	496	10	16	50	1,500		
29			5	8	--	750		
30		1	31	116	--	4,650		
Total	4,590	55,084		786	304		29	8

Average reds per case, 12.

Average kings per case, 3.82.

TABLE 15. BERING RIVER DRIFT GILLNET SALMON CATCH, 1951-1961

Year	Kings	Reds	Cohos	Pinks	Chums
1951	34	3,591	46,306	5	1
1952 <u>1/</u>	0	0	13,642	0	0
1953	26	8,572	0	0	0
1954 <u>2/</u>	0	129	91,964	9	1
1955	125	34,121	70,100	50	2
1956	147	41,437	53,484	46	5
1957	71	29,142	27,441	27	22
1958	72	23,947	21,202	32	1
1959	77	27,384	58,560	6	0
1960	63	32,890	68,255	101	5
1961	29	55,084	50,883	30	1

1/ Set gill nets caught 13,642 coho in 1952 and 129 reds and 7,665 coho in 1954.

TABLE 16. BERING RIVER SALMON CASE PACK, 1951-1961 1/

Year	Kings	Reds	Cohos	Pinks	Chums
1951	10	310	5,717	*	*
1952	0	0	1,684	0	0
1953	8	772	0	0	0
1954	0	11	12,262	*	*
1955	36	2,967	8,151	3+	*
1956	41	3,700	6,444	1+	*
1957	19	2,512	2,613	1+	3
1958	24	2,082	2,554	2	*
1959	24	2,123	8,809	*	*
1960	16	2,454	7,257		
1961	8	4,590	5,506	2	
Average	20	2,390	6,100		

1/ Estimated total case pack (48-lb/case) based on reported number of salmon per case.

* Less than one case.

TABLE 17. BERING RIVER COHO SALMON - 1961

Week	Case Pack <u>1/</u>	Catch	No. Boats	No. Deliveries	Ave. Catch Per Boat	Fathoms of Gear <u>2/</u>
34	75	689	5	8	138	750
35	884	8,167	31	116	263	4,650
36	1,704	15,750	36	198	438	5,400
37	2,008	18,554	36	192	515	5,400
38	835	7,723	29	100	266	4,350
Total	5,506	50,883		614		

1/ Calculated from total season average coho per case.

2/ Based on 150 fathoms red gear per boat.

Average coho per case, 9.24.

PRINCE WILLIAM SOUND

GENERAL

A very limited salmon purse seine season was anticipated for Prince William Sound in 1961 based on Fish and Wildlife Service records of the spawning escapement of pink salmon in 1959. The resulting pink salmon run returning to the eastern and southern portion of Prince William Sound presented an urgent problem to both management and the fishing industry for the harvest of the surplus pinks. The implementation of several emergency regulations allowed an orderly harvest commensurate with the capacity of the industry to handle the salmon. The flexibility of emergency regulations allowed the direct control necessary to cope with harvest and protection problems as they arose.

The purse seine season is briefly summarized as follows. Table 18 shows a comparison of Prince William Sound seasons since 1924.

During the month of July, regular aerial and ground surveys were conducted on Prince William Sound streams to check the progress of the salmon runs and to record the escapement. In addition, a Federally sponsored salmon tagging project was being conducted which provided information on the relative abundance of pink salmon. The salmon runs progressed as expected through the first three weeks of July, however, the survey of the fourth week of July showed an unexpected abundance of pink salmon appearing within the southern and eastern districts of Prince William Sound.

After a meeting with the fishermen's advisory committee and industry representatives, an emergency regulation was adopted to allow a limited harvest of approximately one million pink salmon from the Eastern and Southeastern Districts of Prince William Sound on two 12 hour periods of August 1 and 3. The fishery progressed as expected on the opening day with approximately 500,000 salmon taken, however, the canning industry was unable to cope with the numbers of salmon being caught and asked for a postponement of the next open period. Due to the lack of

holding and canning capacity an emergency regulation was adopted to postpone the August 3rd opening until August 4th. Subsequent aerial and ground surveys, made during and after each fishing period, indicated the arrival of new runs of pink salmon and additional fishing time was allowed. The lateness of the season, along with the vulnerability of the spawning stocks, made it necessary to manage the fishery on a day to day basis with additional fishing periods allowed on a 12-hour day. Based on the progress of the harvest and escapement of pinks to protected areas, additional harvest was allowed by emergency regulation on August 8, 12, 13, and 14 in the Southeastern, Eastern and Montague Districts of Prince William Sound. Following the pink season a special purse seine season was allowed in Port Fidalgo, (Prince William Sound) on August 15, 16, 17 and 18 to harvest a surplus of chum salmon.

Because of the limited canning capacity in operation in the Cordova area, a large per cent of the purse seine catch was shipped to other areas for processing. The total case pack of each species is based on the average number per case at the Cordova plants. The summary of the purse seine season catch and case pack catch by company is given in Table 21a, 21b, 22a, 22b, 23 and 24.

The total case pack (48/1# cans per case) for pinks was 135,139 (Table 20) which compares to the 1960 pack of 70,554 when the entire Prince William Sound area was open. The total case pack of 24,129 chums is slightly more than one half the 1960 pack of 39,711. The pack of coho was 1,221 cases and for reds, 6,589 cases.

During the purse seine season, 102 purse seine units participated in the fishery and harvested 2,174,440 pinks, 199,033 chums, 2,011 coho and 418 red salmon. Based on 102 units of gear (Table 19) in the fishery, each vessel caught an average of 21,318 pinks, 1,951 chums, 20 coho and 4 red salmon. On the basis of an average of three fishermen per boat, the monetary return per individual fisherman averaged about \$2,500.00.

Aerial and ground surveys were conducted during July, August and September to access the spawning escapement. A generally good to excellent escapement of pink salmon was obtained in the Eastern, Southeastern and Montague Districts of Prince William Sound. Some streams in these districts obtained an excess of spawning pinks, however, due to the unusual circumstances of the run, it was impossible to harvest the surplus salmon without jeopardizing those needed for spawning purposes. The remaining Districts of Prince William Sound received a very spotty distribution of pinks with the majority of the spawning escapement being in a few major streams. The pink salmon escapement for Prince William Sound streams in 1961 is estimated to be 2,203,800 (Table 27a to f and 29). The chum salmon escapement was approximately 341,260 (Table 28a to f and 30).

TABLE 18. PRINCE WILLIAM SOUND SUMMARY OF FISHING SEASONS, 1924-1961

GENERAL AREA:					SPECIAL AREA OPENINGS AND CLOSURES:						
Year	Opening Date	Closing Date	Season Extensions	Special Closures	Weekly Closures	Eschmy Closures	Pt. Valdez Closures	Pt. Fidalgo Closures	Drier Bay Openings	Pt. Wells Closures	
1924	None Set	None Set	None	None	48 hours	None	None	None	None	None	
1925	None Set	None Set	None	8/10-25	48 hours	None	None	None	None	None	
1926	None Set	None Set	None	8/9-25	36 from 8/25	None	None	1800 7/9	None	None	
1927	0600 6/6	0600 9/21	None	8/5-30	48 hours	1800 8/20	None	0600 7/11	None	None	
1928	0600 6/6	1800 8/5	None	None	36 from 8/23	1800 8/15	None	0600 7/11	0600 5/19	None	
1929	0600 6/20	0600 8/3	None	8/3-7	48 hours	1800 8/15	None	0600 7/11	0600 5/28	None	
1930	0600 6/20	0600 8/2	None	None	48 hours	1800 8/15	None	0600 7/11	None	None	
1931	0600 6/20	0600 8/5	8/2-5	None	48 hours	1800 8/15	None	None	None	None	
1932	0600 6/20	1800 8/3	7/30-8/3	None	36 hours	1800 8/15	None	None	None	None	
1933	0600 6/20	1800 8/4	8/1-4	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1934	0600 6/20	1800 8/2	None	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1935	0600 6/20	1800 8/3	None	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1936	0600 6/25	1800 8/5	None	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1937	0600 6/25	0600 8/2	None	8/2-5	48 hours	1800 8/22	1800 9/20	None	None	None	
1938	0600 6/25	1800 8/6	8/5-9	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1939	0600 7/5	1800 8/8	8/5-8	None	48 hours	1800 8/22	1800 9/20	None	None	None	
1940	0600 7/5	1800 8/6	None	None	60 hours	1800 8/22	1800 9/20	None	None	None	
1941	0600 7/5	1800 8/5	None	None	48 hours	1800 8/22	1800 8/22	None	None	None	
1942	0600 7/5	1800 8/10	8/7-10	None	48 hours	1800 8/22	1800 8/22	None	None	None	
1943	0600 7/5	1800 8/11	8/5-9	None	48 hours	1800 8/22	1800 8/22	None	None	None	
1944	0600 7/10	1800 8/9	8/10-11	None	48 hours	1800 8/22	None	None	None	None	
1945	0600 7/1	1800 8/5	8/5-9	None	48 hours	1800 8/22	None	None	None	None	
1946	0600 7/10	0600 8/11	8/7-13	None	48 hours	1800 8/22	None	None	None	None	
1947	0600 7/5	1800 8/7	8/13-14	None	48 hours	1800 8/22	None	None	None	None	
1948	0600 7/20	1800 8/7	None	None	48 hours	1800 8/22	None	None	None	None	
1949	0600 7/1	1800 8/7	None	None	48 hours	1800 8/22	None	None	None	None	
1950	0600 7/20	1800 8/4	None	8/4-7	48 hours	1800 8/22	None	None	None	None	

TABLE 18., continued, PRINCE WILLIAM SOUND SUMMARY OF FISHING SEASONS,
1921 - 1961

GENERAL AREA:			SPECIAL AREA OPENINGS AND CLOSURES:							
Year	Opening Date	Closing Date	Season Extensions	Special Closures	Weekly Closures	February Closures	Pt. Valdez Closures	Pt. Adair/Ct. Closures	Pt. Wells Closures	Coghlin
1951	0600 7/1	0600 8/1	none	8/1-6	48 hours	1800 8/22	none	none	none	none
1952	0600 8/4	1800 8/30	none	none	48 hours	1800 8/22	none	none	none	none
1953	0600 7/13	1800 8/8	8/5-8	none	48 hours	1800 8/22	none	none	none	none
1954	0 1.0 3 E D				48 hours	1800 8/22	none	none	none	none
1955	0 1.0 3 E D				48 hours	1800 8/22	none	none	none	none
1956	0600 7/10	0600 8/6	none	none	48 hours	1800 8/22	none	none	none	none
1957	0600 6/10	0600 8/5	none	8/5-10	48 hours	1800 8/22	none	0900 9/3-1800 9/6 (Opening)(Closing)	none	none
1958	0600 7/30	0600 8/6	none*	8/6-9	48 hours	CLOSED	none	none	none	none
1959	0 1.0 3 E D				CLOSED					
1960	1201 7/11	1800 8/3	none	7/4-10**	72 hours	CLOSED	none	7/16 west side		
1961	Eastern, Southeastern**					1200 8/18	none	(Opening) (Closing) 0600 8/15-1800 8/18		1200 8/1
	Nonatan***									1200 7/1
	0600 8/8	1800 8/14								

* Season closure by time table released to allow all gear to fish until closure on 8/6.
** Fishing days by year time table during season. On 8/2-3 fishing allowed 12-hour day. Fishing closed 1800 8/3.
*** 12-hour fishing day.

TABLE 19.

SUMMARY OF SALMON GEAR OPERATED, 1952-1961

PRINCE WILLIAM SOUND				COPPER RIVER DRIFT GILL NETS 1/	
Year	Traps	Purse Seines	Gill Nets 1/	Red Season 4/	Coho Season
1952	31	138	12,000 2/	57,300	22,800
1953	21	76	15,450 2/	75,000	7,900
1954	C L O S E D		4,725 3/	87,000	27,000
1955	C L O S E D		4,400 3/	88,050	25,000
1956	26	132	4,600 3/	74,100	--
1957	11	152 5/	4,400 3/	77,700	30,000
1958	13	183	CLOSED	75,900	--
1959 6/	C L O S E D 4/		CLOSED	53,250	25,050
1960		223	CLOSED	59,400	34,050
1961		102		50,550	25,650

1/ Fathoms of gear

2/ Including Eshamy

3/ Eshamy only

4/ Peak effort

5/ 50 purse seines operated during a special chum season

6/ Fish traps declared illegal when Alaska became a State.

TABLE 20. PRINCE WILLIAM SOUND ANNUAL SALMON CASE PACK 1/

Year	Reds	Kings	Pinks	Chums	Cohos	Total
1931	13,188	199	374,880	59,516	5,889	453,672
1932	24,369	1,402	206,842	33,142	10,756	276,511
1933	9,296	726	194,275	31,475	7,390	243,162
1934	13,398	1,121	385,207	33,752	11,796	445,274
1935	16,115	557	200,990	52,228	3,223	273,113
1936	13,759	402	608,269	23,606	5,152	651,188
1937	8,236	295	182,309	21,527	5,770	218,137
1938	10,204	284	461,781	31,106	5,703	509,078
1939	10,895	246	129,173	28,725	3,505	172,544
1940	6,360	242	522,138	53,641	7,776	590,157
1941	5,966	96	212,729	73,637	4,369	296,797
1942	10,844	439	356,528	81,359	6,282	455,452
1943	4,334	108	511,020	30,326	7,559	560,347
1944	11,243	151	416,838	118,063	7,512	553,857
1945	15,216	109	498,684	156,821	4,566	675,396
1946	9,529	372	315,972	72,571	15,674	414,218
1947	17,176 ¹ / ₂	180	376,125	63,676	6,240 ¹ / ₂	464,398
1948	18,460	45	120,765	46,010	3,663	188,943
1949	8,272	160	273,226	82,409	11,107	375,174
1950	7,049	74	105,397	53,450	8,625	174,595
1951	19,996	1,469	47,809	54,942	5,295	129,511
1952	6,997	5	115,451	66,254	5,508	194,215
1953	4,929	37	122,236	34,552	4,085	165,839
1954	654	--	746	695	56	2,151*
1955	1,346	--	1,795	550	63	3,754*
1956	15,442	31	185,664	48,772	3,313	253,222
1957	6,322	171	35,431	74,716	1,892	118,532
1958	1,117	6	358,860	77,922	597	438,502
1959	C L O S E D					
1960	2,701	2	70,554	39,711	1,267	114,235
1961 ² /	6,589	106	135,189	24,129	1,221	166,355
1962 ² /	5,454	33	222,777 ³ /	81,856	1,457	350,527
Average ³ /	10,464	315	263,800	56,893	5,765	342,483

1/ Case pack on the basis of 48-1 pound cans per case.

2/ Case pack includes Eshamy and Coghill Districts and troll catches.

* Eshamy only.

³/ Excluding 1954, 1955 and 1959.⁴/ Based on 24.14 pounds per case.

TABLE 21a. PRINCE WILLIAM SOUND PINK SALMON, 1961, PURSE SEINE
(Weekly Catch and Case Pack) 1/

Week	Case Pack (48-12/cb.)	Catch (No. Fish)	No. Units <i>Boats</i>	Ave. Catch Per Boat	No. Landings	No. Fishing Days Per Week
31 (7/30-8/5)	50,625	860,627	170 117	5,062 7,232	330	2
32 (8/6-12)	51,388	873,591	168 116	5,200 7,531	354	2
33 (8/13-19)	25,895	440,222	143 101	2,974 4,359	324	5 2/
Total	127,908	2,174,440	486 336	13,234 19,122	1,008	9

1/ Special purse seine season in Eastern, Southeastern and Montague Districts. Fishing days by field announcement on a 12-hour per day basis.

2/ Four of the 12-hour days were during a special Port Fidalgo extension only.

TABLE 21b. PRINCE WILLIAM SOUND PINK SALMON BY COMPANY, 1961

Week	Alaska ^{1/} Packers	Pacific ^{2/} American	Wash. Fish ^{3/} & Oyster	Bering Sea	Clarence May	T.J. ^{4/} Trucking	P.E. Harris	Alaska Reefer	North Star	Total
31	646,645	174,317	37,224	49,176		2,188				909,50
32	583,959	143,439	24,912	20,534	19,948	17,417	2,466	19,491	7,737	839,90
33	158,747	87,673	50,258	--	4,156	1,526	2,752	59,007	29,556	393,67
Total	1,389,351	405,429	112,394	69,710	24,104	21,131	5,218	78,498	37,293	2,143,12

1/ Combination of Alaska Packers Association, New England Fish Company and Western Fisheries Company.

2/ Combination of Pacific American Fisheries and San Juan Packing Company.

3/ Washington Fish and Oyster Company

4/ T.J. Trucking Company hauled fish from Valdez to Eward Packing Company in Anchorage.

5/ Does not include 31,312 pink salmon reported by statistical records at Juneau that did not show in Cordova tabulations.

TABLE 22a. PRINCE WILLIAM SOUND CHUM SALMON, 1961, PURSE SEINE
(Weekly Catch and Case Pack) 1/

Week	Case Pack (48-117/cb.)	Catch (No. Fish)	No. Units	Ave. Catch Per Boat	No. Landings	No. Fishing Days Per Week
31 (7/30-8/5)	2,718	25,279	170 117	149 212	330	2
32 (8/6-12)	7,662	71,253	168 116	424 614	354	2
33 (8/13-19)	11,021	102,196	118 101	893 1015	324	5 <u>2/</u>
Total	21,401	199,033	486	1,255 1841	1,008	9

1/ Special purse seine season in Eastern, Southeastern and Montague Districts.
Fishing days on a 12-hour day basis by field announcement.

2/ Four of the 12-hour days were during a special Fort Fidalgo extension only.

TABLE 22b. PRINCE WILLIAM SOUND CHUM SALMON BY COMPANY, 1961 1/

Week	Alaska Packers	Pacific American Fisheries	Wash. Fish & Oyster	Bering Sea	Clarence Moy	T.J. Trucking	P.E. Harris	Alaska Reefer	North Star	Total
31	16,182	4,515	2,927			1,701				25,325
32	33,736	13,879	7,839	3,968	254	618		5,767	396	66,507
33	26,398	11,393	9,476	3,389	123	68	4	20,912	20,017	91,780
Total	76,316	29,787	20,292	7,357	377	2,387	4	26,679	20,413	183,612

1/ Refer to footnotes of Table 21b. for fishing companies involved.

TABLE 23. PRINCE WILLIAM SOUND RED SALMON, 1961, PURSE SEINE 1/
(Weekly Catch and Case Pack)

Week	Case Pack (48-1 $\frac{1}{2}$ /cs.)	Catch	No. Units	Ave. Catch Per Boat	No. Landings	No. Fishing Days
31 (7/30-8/5)	29.0	302	170 111	1.3 2.5	330	2
32 (8/6-12)	8.0	83	168 116	0.5 0.7	354	2
33 (8/13-19)	3.2	33	148 101	0.2 0.3	324	5 2/
Total	40.2	418	486	2.0 3.5	1,008	9

1/ Special purse seine season in Eastern, Southeastern and Montague Districts.
Fishing days on a 12-hour basis by field announcement.

2/ Four of the 12-hour days were during a special Port Fidalgo extension only.

TABLE 24. PRINCE WILLIAM SOUND COHO SALMON, 1961, PURSE SEINE 1/
(Weekly Catch and Case Pack)

Week	Case Pack (48-1 $\frac{1}{2}$ /cs.)	Catch	No. Units	Ave. Catch Per Boat	No. Landings	No. Fishing Days
31 (7/30-8/5)	46	417	170 119	2.5 3.5	330	2
32 (8/6-12)	102	919	168 116	5.5 7.9	354	2
33 (8/13-19)	75	675	148 101	1.6 6.7	324	5 2/
Total	223	2,011	486	12.6 8.1	1,008	9

1/ Special purse seine season in Eastern, Southeastern and Montague Districts.
Fishing days by field announcement on a 12-hour per day basis.

2/ Four of the 12-hour days were during a special Port Fidalgo extension only.

Table 25. Prince William Sound Pink, Chum and Red Salmon

Total Escapement Counts, by District

1961

District	Number of Streams Surveyed	Pinks	Chums	Reds
Eastern	81	706,780	117,948	1,800
Northern	29	124,200	50,412	3,650
Northwestern- Coghill	35	448,180	70,936	45,980
Southwestern- Eshamy	38	125,160	4,721	52,275
Montague	50	289,290	34,370	500
Southeastern	44	497,360	62,812	50
Prince William Sound Totals	277	2,188,730	341,199	104,255

TABLE 27a. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
I. EASTERN DISTRICT																
1	Hartney Bay	-	-	-	-	-	-	100	-	-	2000	3000	-	-	-	4440
4	Humpty Creek	0	-	-	5120	4350	5990	5700	-	1890	3490	3490	-	-	-	16010
7	Simpson Bay	-	-	-	-	-	0	0	0	20	2100	-	-	-	-	2400
7a-8	Simpson Bay	0	-	-	2590	-	490	400	200	400	3670	-	-	-	-	6700
11	Sheep Bay	1500	-	-	74080	12300	3000	2800	11740	-	21170	16200	-	-	-	107560
12	Sheep Bay	0	-	-	6070	4000	2420	2000	8000	10370	31030	15350	-	-	-	45980
14	Gravina Bay	-	-	-	-	-	0	0	1500	-	7270	-	-	-	-	9510
18	Comfort Cove	-	-	-	-	-	200	500	9300	5000	10060	1970	-	-	-	21730
20	Beartrap	0	-	-	0	-	470	500	1800	2000	4230	2500	-	-	-	6640
22	Gravina River	-	-	-	-	-	0	0	0	-	2000	-	-	-	-	2000
23	Olsen Bay 2/	0	-	-	1900	3200	2100	5000	8200	-	3780	9000	-	-	-	46560
24	Olsen Bay	0	390	-	780	1040	790	900	2360	-	3450	11170	-	-	-	11820
25	N. Gravina	-	-	-	200	340	180	100	2030	-	12760	20030	-	-	-	14280
26	St. Matthews	-	-	-	200	1150	840	240	650	-	15200	-	-	-	-	30830
28	Irish Cove	-	-	-	200	280	40	2000	5000	-	8500	-	-	-	-	24890
29	Whalen Bay	500	-	-	2000	9770	2000	500	-	3890	5570	2140	-	-	-	3900
31	Upper Fidalgo	-	-	-	-	-	100	0	0	2900	-	-	-	-	-	26980
34-34a	Fish Bay, Main Stream	300	-	-	2000	4710	800	1100	5000	7000	11660	3400	-	-	-	3920
37	Fish Bay	-	-	-	-	-	-	0	0	800	-	-	-	-	-	10460
39	Lagoon Cr, landlocked	0	-	-	2600	3180	2100	1400	3600	3470	3370	1060	-	-	-	2140
40-40a	Boulder Bay	-	-	-	0	-	500	1000	500	200	1060	4200	-	-	-	6030
41	Ellamar	-	-	-	0	-	0	200	800	700	3600	-	-	-	-	4240
42	Turner Cr, Galena Bay	-	-	-	0	-	10	0	0	300	6500	-	-	-	-	7320
43	Willard Creek, Galena	0	-	-	200	350	500	400	1000	1600	12500	-	-	-	-	41250
44	Duck River, Galena	0	-	-	0	380	320	1000	5000	4880	5790	3100	-	-	-	24450
45	Indian Creek, Galena	700	-	-	2000	9100	6340	9000	4000	5790	3100	-	-	-	-	4680
45a-46	Johnson Cove	0	-	-	500	770	600	500	0	430	4760	-	-	-	-	9750
47	Jack Bay	0	-	-	1000	3950	2050	1700	100	1810	8250	-	-	-	-	15150
48	Jack Bay	0	-	-	1100	4910	2420	2000	2000	2190	2110	-	-	-	-	2640
49	Jack Bay	0	-	-	0	-	0	0	0	1000	2960	-	-	-	-	5850
50	Jack Bay	-	-	-	0	110	1250	2000	100	1500	-	-	-	-	-	-

(continued next page)

TABLE 27a., continued, FRISCO WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/2	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
I. EASTERN DISTRICT, continued																
50d	Port Valdez, S. Shore				2300	1220	3710	1100		500		240			4090	
51	Robe River				1800		900	800		200		10			2460	
51c	Sivash Flats				100		5000	3710		1000		0			5120	
51e	Sivash Creek				40000	55460	15000	6130		6300		60			61060	
51f	Crooked Creek				500		2000	1180		10		0			2380	
52d	West Gold Creek		0		900	4050	2000	500		110		180			3200	
53	Twin Falls Cr., Sawmill		-		3200	2110	3500	3500		2600		6600			16360	
54	Stellar Creek, Sawmill		300		9000	12110	14000	14000		9000		7090			40240	
Other Streams (25)	3/ 4/		500		2600	2840	5660	4480							41990	
District Total	1/		8300		163860		96580		112840		240995		216310		286600	
(81 Streams)		0	49140		208500		76940		144550		297520		113030		704700	

- 1/ Ground survey counts underlined, others are aerial counts.
- 2/ Periodic estimates received from U.S. Fish and Wildlife Service research station on this stream, (weir maintained on each fork).
- 3/ From records maintained on 25 small streams which had total escapement of less than 2,000 pinks each in 1961.
- 4/ Contains interpreted data where surveys lacking on certain weeks.

TABIE 27b. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
II NORTHERN DISTRICT																
58	E. Arm, Long Bay, Main Str.	0		500	490	1200		300	700			1290			2990	
65	Wells Bay	0		11000	<u>18940</u>	45000			<u>10300</u>			<u>4580</u>			69330	
66	Cannery Cr, Unakwik					1500		5700	<u>3670</u>			<u>11530</u>			11980	
67	Compen Cr, Unakwik					100		1000	2680			<u>500</u>			3310	
65	Head Jonah Bay					300		1700	5990			<u>2120</u>			12440	
74	Haglek Bay					500		500	2500			<u>2640</u>			4900	
75	Haglek Bay, Glacial					0		100	0			<u>2580</u>			2400	
75a	Haglek Bay, Spring					300		100	0			<u>2760</u>			2620	
Other	Streams (21)	<u>2/</u>	<u>3/</u>	100	100	0	500	1800	5810	8940	9550	<u>6470</u>	2400	0	14210	
District Totals	<u>3/</u>	0		2000	19530	48600	46700	36400	31650	40040	40050	40050	14400	3000	124180	
(29 Streams)		0		11600											5	
<u>1/</u> Ground survey counts underlined; others are aerial estimates.																
<u>2/</u> Streams with less than 2000 total pink escapement.																
<u>3/</u> Contains interpreted data where surveys lacking on certain weeks.																

1/ Ground survey counts underlined; others are aerial estimates.

2/ Streams with less than 2000 total pink escapement.

3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 27c. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
III NORTHWESTERN AND COGHILL DISTRICT																
83	Coghill River	10	200	9100	27600	35000	50000	185500	90000	29500	195600	4/				
86	Bettles Bay		0		0	0	200	4000	1650	210	7560					
89N	N. Pigot Bay		0		5000	11150	19000	32000	6650	2100	52900					
89S	S. Pigot Bay		0		1500	9400	25000	40000	20130	5010	71230					
91	Logging Camp, Passage Canal				0	5900	5000	6500	4120	1250	17910					
92W	Blackstone Bay				100	560	100	1500	1190	300	2940					
100	Main Stream, Long Bay		0		500	3000	25000	32500	42300	26110	13700					
101a	Lower Culross Passage						0	300	3130	560	3200					
102	Mink Hbr, Pt. Nellie Juan						40	3000	8300	1980	10330					
104	Outer Kings Bay						110		1950	500	2100					
105	Outer Kings Bay						0	500	3570	1500	4430					
111	E. Arm McClure Bay						0	0	4650	2000	5180					
Other Streams (23)		2/ 3/		400	550	1100	1800	3650	6000	4430	6520	2400	450	12680	5	
District Totals (35 Streams)		3/	10	200	11800	35100	65560	125550	246800	309650	260000	205870	111720	23650	6500	1448040
1/ Ground survey counts underlined; others are aerial estimates.																
2/ Streams with less than 2000 total pink escapement.																
3/ Contains interpreted data where surveys lacking on certain weeks.																
4/ Stream life estimated at 4 weeks.																

- 1/ Ground survey counts underlined; others are aerial estimates.
2/ Streams with less than 2000 total pink escapement.
3/ Contains interpreted data where surveys lacking on certain weeks.
4/ Stream life estimated at 4 weeks.

TABLE 27d. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/25	7/1	7/9	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	

IV. SOUTHWESTERN AND ESHAMY DISTRICTS																
112c	N. Shore Eshamy Lagoon					20	30	140	800					2000		3800
113	Eshamy River					<u>0</u>	<u>0</u>	<u>0</u>	<u>2290</u>	4280			5170	<u>10000</u>		17940
116	Lake Cr., Head Ewan Bay					0	0	100		2100			1160			8110
116a	Outer Ewan Bay					0	0	100		400			1160			2860
118	Jackpot River & Lakes					0	2000	3000		22000						25750
120	S. Arm Jackpot Bay						<u>500</u>	500	1000	1500			2100			5640
122	Lake Cr., N.W. Chenega I.						0		500	2200			1120			8730
123	Lagoon Cr., NW Chenega I.						500		500	1500			1300			3950
133	Bainbridge Lake Cr.					50			1000	3500			4770			5580
140	Upper LaFouche Pass, Evans I.					0	0	0	100	3000			2270			4630
141	Crab Bay					0	0	0	800	2000			5370			11070
141a	Anderson Cove, Sawmill Bay									100			5000			6040
Other Streams (26)	<u>2/ 3/</u>	100				280	100	1700	5850	14260	18380		9560	2500		21060
District Totals	<u>3/</u>	0	0	0	120	3360	5040	14690	49430	82680	105880		79200	36000	10500	125160
(38 Streams)		0	0	0												

1/	Ground survey counts underlined; others are aerial estimates.
2/	Streams with less than 2000 total pink escapement.
3/	Contains interpreted data where surveys lacking on certain weeks.
4/	Stream life estimated at 4 weeks.

1/ Ground survey counts underlined; others are aerial estimates.

2/ Streams with less than 2000 total pink escapement.

3/ Contains interpreted data where surveys lacking on certain weeks.

4/ Stream life estimated at 4 weeks.

TABLE 27e. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/25	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
V. MONTAGUE DISTRICT																
170x	Green Island															12040
145	Macleod Hbr, W. Head						0	100	400	1000		17370				22350
145a	" "						0	0	0	0		8130				8050
145d	" "						0	0	500	1100		2470				3350
146	S. Hanning Bay						0	700	1000	7000		14700				20160
146a	N. Hanning Bay						0	500	1500	21000		19500				33430
146	Middle Montague															
b to r	Shore (18 Streams)						0	350	2500	9500		10400				46140
147	S. of Port Chalmers						500	1500	2000	8000		4700				10060
148	" "						0	0	200	4500		5230				7890
150	Southern Port Chalmers						0	0	0	3000		6600				9000
151	Port Chalmers						0	0	100	600		5520				6330
152	Port Chalmers						0	0	200	500		6000				6600
153	Port Chalmers						0	0	0	2500		7400				8460
154	Port Chalmers						0	0	0	2000		5670				8270
154a	Port Chalmers						0	0	0	2500		1550				2340
155	Bay N. of Port Chalmers						0	0	0	7500		8500				10200
155c	Stockdale Harbor						0	0	1000	9500		10700				12680
156	Rocky Bay						0	0	0	12000		17300				23720
156a	Rocky Bay						0	0	0	2950		2800				3380
157	Head of Zaikof Bay						0	0	0	4500		2800				3920
157c	S.E. Shore Zaikof Bay					0	0	0	0	0		5200				4360
158	Outer Zaikof Bay						0	0	0	500		2800				3400
159	Outer Zaikof Bay						0	0	200	0		2900				4040
204	Nellie Martin River						0	0		4350		4000				4540
Other Streams (8)		2/	3/					300	550	3950		11500	11410	6700	2000	14560
District Total		3/	0	0	0	0	500	3450	11650	83500		218830		56000	12000	289290
(50 Streams)			0	0	0	0					182700		218830		154610	

- 1/ Ground survey counts underlined; others are aerial estimates.
- 2/ Streams with less than 2000 total pink escapement.
- 3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 27f. PRINCE WILLIAM SOUND PINK SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/25	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
VI. SOUTHEASTERN DISTRICT																
172	S. side Port Etches					0	1500	4000	3300	2700	8500	10920				
173	" "					0	0	100	500	2700	2550	2740				
174	Garden Cove, Pt. Etches					0	0	500	800	4050	1630	2990				
175	Main Stream, Head Port Etches					0	2500	18000	20000	13300	10300	27240				
176	Constantine Harbor					1000	4100	25000	35000	46000	34300	64800				
177	N.W. Hinchinbrook I.					1100	25200	8000	14000		3130	24690				
178	Juanita Bay					300	0	3000	12000		7550	14220				
179	Shelter Bay					200	500	500	2200		4300	4920				
180	Anderson Bay					0	500	7000	3200	11750		14580				
181	Anderson Bay					0	1000	6000	7000	12630		16250				
182	Double Bay					0	0	3000	1500		9200	9080				
183	Double Bay					0	5000	30000	24000	29280	32630	53450				
185	Head Fish Bay					200	2000	15000	25000	29280	18000	38990				
186	Hankins Cutoff					300	3000	20000	12000	2500	8000	20320				
187	Dans Bay					0	1000	5000	5000		4300	8760				
187a	Dans Bay							3000	1400		3500	4640				
187b	Dans Bay							1000	1500		7000	6880				
188	Boswell Bay, Long Cr.										2500	2600				
189	W. Side Makaka Pt.					0	600	25000	30000	56100		69080				
190	E. Side Makaka Pt.					0	5000	10000	28000	35200	28580	51110				
190b	W. Side Outer Canoe Pass						0	500	1000	5120		5570				
190c	" "					0	0	3000	2500	17000	3500	6200				
191	Upper Canoe Pass					0	0	1000	1500		2000	2700				
191b	W. of Cedar Bay					0	0	0	500			2600				
191c	" "					0	0	0	2000	2550		3220				
191d	Cedar Bay					0	0	0	1000	3570		3330				
191e	Cedar Bay					0	0	0	1500	2460		3380				
192	Windy Bay					0	300		4700	5470		7590				
192b	Orca Channel					0	0		1000	1740	2950	3080				
193	Orca Channel					0	0		2000	2690	2750	3860				
196	N. of Canoe Pass					0	0	0		1170	2190	2190				
Other	Streams (12) 2/3/								2170	4530	4100	1450				
District Total	3/	0	0	0	0	3100	52200	190600	248270	328690	281740	102250	32750	5000	497360	
(44 Streams)																

1/ Ground survey counts underlined; others are aerial estimates.
2/ Streams with less than 2000 total pink escapement.
3/ Counts interpreted data where surveys lacking on certain weeks.

TABLE 28a. PRINCE WILLIAM SOUND CHUM SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
I. EASTERN DISTRICT																
1	Hartney Bay															1160
11	Sheep Bay	1500			29190		3200	2000	500							37112
12	Sheep Bay	0			<u>100</u>		<u>150</u>	500	2000							5120
20	Beartup Bay	100			500		1570	2000	<u>500</u>							3544
?	Gravina River						<u>400</u>	500	700							1040
23	Olsen Bay	230	110		1160	770	90	760	40	20	30	60	60	10	0	1796*
29	Whalen Bay	100			2000	2650	390	200		150		190				2700
31	Upper Port Fidalgo					<u>20</u>	0	0		<u>2040</u>		1690				3440
31b	Upper Port Fidalgo						0	0		<u>50</u>		1770				1888
32	Sunny Bay, Glacial							200		2200		2290				4056
32a	Sunny Bay, Clear							0		4100		0				4240
39	Lagoon Cr., landlocked	0			0	<u>10</u>	0	0	0	<u>410</u>		2820				2856
44	Duck River, Galena Bay.	0			600	<u>170</u>	4300	6000		<u>15000</u>		8000		0		23228
45	Indian Creek, Galena	200			1300	<u>1340</u>	350	0		<u>310</u>		<u>230</u>				1960
49	Jack Bay	10			100		500	600		3000		730				3344
50	Jack Bay					<u>10</u>	1250	500		700		350				2112
51f	Crooked Creek						1500	600		900						2160
53	Twin Falls Cr., Sawmill				100	0	0	200		200		3100				3540
Other Streams (27)	2/ 3/	100	1000		3130	3600	4330	2680	1580	3710	4630	3670	1830	310		12352
District Totals		2240			38180		18830	24370		37100	36390	30700	15860	5320	1500	
(45 Streams) 3/	0	31310			35830		17240									117948
No. Streams contributing to total.	(7)	(13)	(26)	(31)	(31)	(25)	(32)	(34)	(42)	(37)	(30)	(12)	(3)			

- 1/ Ground survey counts underlined; others are aerial estimates.
 2/ Streams with less than 1000 chum total escapement.
 3/ Contains interpreted data where surveys lacking on certain weeks.
 * Aerial counts and weir counts (U.S.B.C.F.) combined.

(Live Counts in Streams) I/

Contains interpreted data where surveys lacking on certain weeks.

TABLE 28c. PRINCE WILLIAM SOUND CHUM SALMON - 1961
(Live Counts in Streams) 1

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
III NORTHWESTERN AND COGHILL DISTRICT																
83	Coghill River	0			15000	11000	22000	32610			2200		0			49324
84	Harrison Lagoon	0			0	0	0				940					1016
86	Bettles Bay	0			0	200	1400				1710		160			5348
1	S. Pigot Bay	0			300	1060	1000				860		160			2672
92a	Blackstone Bay				0	<u>1450</u>	200				370					1200
93	Cochrane Bay W. Glacial						800				120		0			1148
101	Lower Culross Passage						0				1040		360			1500
110	W. Head, McClosure Bay						370				800		500			1380
Other Streams (20)	<u>2/3/</u>				100	850	<u>940</u>	1650	3450	4040	3920	2750	520	150		7348
District Totals																
(28 Streams) <u>3/</u>	0				15600	14170	25710	39710	35800	20840	11210	6750	2000	550	0	70936
No. Streams contributing to total.			(0)	(1)	(4)	(12)	(12)	(15)	(22)	(23)	(27)	(22)	(10)	(4)	(0)	
1/ Ground survey counts underlined; others are aerial estimates.																
2/ Streams with less than 2000 total are escapement.																
3/ Contains interpreted data where surveys lacking on certain weeks.																

- 1/ Ground survey counts underlined; others are aerial estimates.
- 2/ Streams with less than 2000 total ~~4400~~ escapement.
- 3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28d. PRINCE WILLIAM SOUND CHUM SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total	
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23		
IV SOUTHWESTERN DISTRICT																	
120	Jacopot Bay							500	<u>690</u>	1000		1000		<u>160</u>		2200	
	Other Streams (11)	<u>2/</u>	<u>3/</u>	0	0	110	250	100	203	175	1555	1510	1935	1480	735	330	70
	District Totals																
	(12 Streams)	<u>3/</u>	0	0	110	250	600	893	1175	1555	2510	1935	1480	895	330	70	4721
No. Streams contributing to total		(0)	(0)	(2)	(2)	(2)	(3)	(6)	(9)	(10)	(11)	(11)	(10)	(7)	(3)		

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- 1/ Ground survey counts underlined; others are aerial estimates.
- 2/ Streams with less than 1000 total chum escapement.
- 3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28e . PRINCE WILLIAM SOUND CHUM SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	
<u>V. MONTAGUE DISTRICT</u>																
146	S. Hanning Bay							1000								1280
146a	Hanning Bay					0	0	2000						200		2140
147	S. of Port Chalmers							300		10000	7000					13370
147a	Logging Camp								1000							1280
150	Port Chalmers				0	0	0	200	3000		11250	2100				10820
152	Port Chalmers				0	0	0	0			2000	1500				2580
Other Streams (8)	<u>2/ 3/</u>			0	0	0	10	60	450	1110	1670	1655	1276	680	340	2900
District Totals		0	0	0	100	425	910	4060	14700	21710	22920	10655	5676	3230	1540	34370
(14 Streams)	<u>3/</u>		0													
No. Streams contributing	(0)	(0)	(0)	(1)	(3)	(3)	(3)	(7)	(12)	(14)	(14)	(14)	(12)	(7)	(7)	8
to total																1

- 1/ Ground survey counts underlined; others are aerial estimates.
- 2/ Streams with less than 1000 total chum escapement.
- 3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28f. PRINCE WILLIAM SOUND CHUM SALMON - 1961
(Live Counts in Streams) 1/

Stream Number	Stream or Bay	WEEK ENDING														Calculated Season Total	
		6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23		
VI. SOUTHEASTERN DISTRICT																	
172	S. Side Port Etches								500	1200		2500				3940	
175	Port Etches								2000	1000		130				2256	
176	Constantine Harbor								3000	2000		5000				11060	
178	Juanita Bay								2000	3000		900				4020	
179	Shelter Bay				5000	2200		3012	1500							8345	
182	Anderson Bay									300		600				1060	
183	Anderson Bay									3000		6750				11080	
185	Hawkins Cutoff										300	1000				1780	
186	Fish Bay, Hawkins Cutoff									4000	2000	3000				8340	
187	Dan's Bay									2000						3420	
187b	Dan's Bay									1000						1640	
190c	Canoe Pass									2000						2901	
Other Streams (6)		2/	3/	0	0	0	120	500	830	1050	1500	1280	1200	630	245	70	2970
District Totals		0	500	4200	5700	5470	9262	14330	18900	22300	20980	23883	16410	10265	4470	62812	
(18 Streams)	3/																
No. Streams contributing	(0) (1) (5) (7) (14) (16) (18) (18) (18) (18) (17) (16) (11)																
to total.																	

- 1/ Ground survey counts underlined; others are aerial estimates.
2/ Streams with less than 1000 total chum escapement.
3/ Contains interpreted data where surveys lacking on certain weeks.

TABIE 29. RECAPITULATION OF WEEKLY PINE SALMON COUNTS IN 1961
BY DISTRICT 1/

No. of Streams	District	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	Calculated Season Total
03	Eastern	8300	45110	163860	200500	96580	76910	112840	114550	241960	300300	217230	118030	28610	706780
07	Northern	0	2000	11600	19530	18600	46700	35400	31650	40040	40030	34490	21400	3000	124800
47	Northwestern & Coastal	200	11800	35100	65560	125550	246800	308650	260000	205870	141720	74520	23650	6500	440180
53	Southwestern & Estuary	0	0	0	120	3360	5040	14690	49430	92190	119030	93000	36000	10500	134510
53	Kontagwa	0	0	0	0	500	3450	11650	83500	182700	218930	154610	56000	12000	289290
44	Southwestern	0	0	0	0	3100	52200	192850	251270	330940	281740	102250	32750	5000	500340
322	Prince William Sound Total	8500	62940	210560	293710	277690	431130	678000	820400	1093700	1101760	676900	230830	65610	2203800

1/ Total figures slightly revised from live counts in stream by district. Refer to Memorandum by W.H. Moerenberg for 1961 run for revised estimates.

TABIE 30. RECAPITULATION OF WEEKLY CHUM SALMON COUNTS IN 1961
BY DISTRICT 1/

No. of Streams	District	7/1	7/8	7/15	7/22	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	Calculated Season Total
03	Eastern	2240	31310	38180	35830	18330	17280	23470	37100	36390	30700	15860	5320	1500	117950
48	Northern	350	3800	6600	9300	12150	14120	14550	13140	18180	19510	9530	4300	500	50420
34	Northwestern & Coastal	0	5000	15600	14170	25710	39710	35000	20040	11210	6750	2000	550	0	70240
11	Southwestern & Estuary	0	110	250	600	900	1180	1560	2510	1540	1480	900	330	70	4750
14	Kontagwa	0	0	100	430	910	4060	14700	21710	22920	10660	5680	3230	1540	34330
18	Southwestern	500	4200	5700	5470	9260	14330	18400	22300	20980	23863	16410	10630	4470	62820
150	Prince William Sound Total	3090	44420	66930	65300	67760	90690	106980	47600	111620	92983	50380	24360	8030	341260

1/ Total figures slightly revised from live counts in stream by district. Refer to Memorandum by W. H. Moerenberg for 1961 run for revised estimates.

ESHAMY DISTRICT

The Eshamy District set and drift gill net season, July 1 to August 18, proved a success after being closed for three successive years. The fishery which was set up to harvest a run of red salmon entering Eshamy Lake, harvested 55,133 reds, 113,326 pinks, 22,918 chums and 1,324 coho. Approximately 28 fishermen participated in the fishery with an average catch of 1,969 reds, 4,047 pinks, 819 chums and 47 coho. The average monetary value received per fisherman was \$5,507.00.

TABLE 31. ESHAMY RIVER WEIR COUNT, 1961

Date	Red Salmon Count			Counts of Other Species		
	Daily Total	Weekly Total	Cum. Total	Pinks	Cohos	Chums
6/25	346					
6/26	92					
6/27	1174					
6/28	489					
6/29	71					
6/30	11					
7/1	49	2232				
7/2	14					
7/3	73					
7/4	14					
7/5	1					
7/6	136					
7/7	951					
7/8	30	1219	3451			
7/9	6					
7/10	88					
7/11	308					
	372					
7/12	52					
7/14	40			1		
7/15	48	914	4365			
7/16	49					
7/17	32					
7/18	1					
7/19	103			1		
7/20	452			13		
7/21	374			2		
7/22	63	1079	5444	1		
7/23	18					
7/24	225			4		2
7/25	45					
7/26	2					
7/27	444			8		
7/28	31			2		
7/29	63	828	6272			
7/30	41			6		
7/31	54			1		

continued next page,

TABLE 31. ESHAMY WEIR COUNT, 1961, continued

Date	Red Salmon Count			Count of Other Species		
	Daily Total	Weekly Total	Cum. Total	Pinks	Cohos	Chums
8/1	326			48		
8/2	163			3		
8/3	370			7		
8/4	212			17		
8/5	782	1948	8220	22		
8/6	1013			151	1	
8/7	744			173		
8/8	515			87		
8/9	5470			789	9	
8/10	3469			468	3	
8/11	1981			240	1	
8/12	2726	15918	24138	175		
8/13	1741			218		
8/14	2229			374		
8/15	2165			395		
8/16	605			207		
8/17	496			206		
8/18	206			243		
8/19	357	7799	31937	340		
8/20	755			585		
8/21	2647			1844		
8/22	2737			2064		
8/23						
8/24						
8/25	398			277		
8/26	591	7128	39065	459		
8/27	1729			1188		
8/28	4147			2352		
8/29	104			67		
8/30						
8/31						
9/1						
9/2	27	6007	45072	38		
9/3	183			95	6	
9/4	35			32	4	
9/5	15			18	1	
9/6	72			136	5	
9/7	137			67	9	
9/8	468			373	6	
9/9	418	1328	46400	734	5	
9/10	875			768	7	
Grand Total				47275	15299	57
						2 = (62633)

At time of weir removal, an estimated 3,000 pinks were spawning below weir, and 5,000 pinks, 200 reds, and 100 cohos were schooled at the stream mouth.

TABLE 32. ESHAMY RIVER WEIR COUNT, 1950 - 1961

Year	Reds	Pinks	Cohos	Chums	Kings
1950	30370	421	971	0	0
1951	62661	5515	1518	0	0
1952	42859	119	51	0	0
1953	4588	718	185	0	0
1954	1437	418	15	0	0
1955	13036	6611	1505	717	0
1956	46863	1166	117	14	2
1957	51303	4031	400	16	0
1958	5224	273	27	3	0
1959	6908	674	256	0	0
1960	13515	250	132	0	0
1961	47275	15299	57	0	0
Average	27170	2963	436	--	--

TABLE 33. ESHAMY RIVER RED SALMON WEEKLY CUMULATIVE WEIR COUNTS, 1950-1961

Week Ending	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
6/30	31	305		7							52	2183
7/7	2731	305		23	2	0	--	61	109	48	1308	3421
7/14	3626	601		120	19	0	782	479	245	371	3220	4317
7/21	6522	896	676	145	148	482	7207	510	1123	502	4633	5381
7/28	7704	1247	3778	148	176	505	8802	690	1588	852	6214	6209
8/4	9262	2281	17310	475	242	1412	12631	812	2183	1450	7316	7438
8/11	10624	18962	23486	987	339	4198	21720	922	2909	3960	8252	21412
8/18	10813	22616	28079	3006	683	8243	37018	2064	4030	5858	10509	31580
8/25	25089	26420	29545	4019	949	11914	41467	27625	4796	6908	12209	38474
9/2	29137	46671	31011	4410	1417	12936	44977	45170	5198	--	13217	45072
9/9	30370	62426	42639	4588	1437	13036	46759	50658	5224	--	--	46400
9/16	--	62661	42859	--	--	--	46863	51308	--	--	--	47275
9/23	--	--	--	--	--	--	--	--	--	--	--	--
Totals	30370	62661	42859	4588	1437	13036	46863	51308	5224	6908	13217	47275

TABLE 34. ESHAMY DISTRICT SALMON CASE PACK, 1950-1961 1/

Year	Reds	Pinks	Chums	Cohos
1950	2231	1109	497	78
1951	6530	2990	1194	158
1952	3594	525	359	72
1953 <u>2/</u>	1319	2515	1104	107
1954	654	746	695	56
1955	1346	1795	550	63
1956	7997	1713	1497	88
1957	3775	1469	1632	80
1958	S E A S O N C L O S E D			
1959	S E A S O N C L O S E D			
1960	S E A S O N C L O S E D			
1961	5490	7093	2335	148

1/ 48/1# cans per case.

2/ One seiner made one delivery of Prince William Sound fish to the Eshamy cannery and several set nets fished outside the Eshamy District during the Prince William Sound season but delivered their fish to the Eshamy cannery. All of these fish were included in the Eshamy pack.

TABLE 3a. ESHAMY DISTRICT SET AND DRIFT GILL NET
FISHERY STATISTICS, 1961 1/

TYPE GEAR	CASE PACK <u>2/</u>				CATCH				Ave. Units of Gear
	Reds	Pinks	Chums	Cohos	Reds	Pinks	Chums	Cohos	
Drift net	108	261	135	2	1076	4184	1329	21	7
Set net	5382	6832	2200	146	54057	109142	21589	1303	21
TOTAL	5490	7093	2335	148	55133	113326	22918	1324	28

1/ In 1961 drift gill nets were allowed to fish the Eshamy District.

2/ Case pack determined from the average number of salmon per case at the Cordova Plants.

COGHILL DISTRICT

Provisions were made in the 1961 commercial fishing regulations to harvest a run of red salmon from the Coghill District which is otherwise not legally harvested during the regular Prince William Sound seasons. An average of about 25 fishermen participated in this drift gill net fishery and caught 12,961 reds, 10,019 pinks, 2,412 chums and 13 coho. The season was a success from the standpoint of management, although it will probably be necessary to make adjustments in fishing boundaries to allow a greater harvest. The average catch per fisherman was 518 reds, 401 pinks, 96 chums and about one coho with a value of \$1,016.00.

TABLE 35. COGNILL RIVER WEIR COUNT, 1961

Date	Red Salmon Count			Count of Other Species				
	Daily Total	Weekly Total	Cum. Total	Pink	Chum	Coho	Dolly Varden	Other
5/28	Weir installed, no fish passed through until 6/4/61							
6/4	2							
6/5								
6/6								
6/7	6							
6/8	2							
6/9								
6/10	4	14						
6/11	1							
6/12								
6/13	3							
6/14								
6/15	5			5				
6/16	141							Bull- 2 heads
6/17	168	318	332					
6/18								
6/19	18							
6/20	3							
6/21	2							
6/22	9							
6/23	161							
6/24	14	207	539				1	
6/25	72							
6/26	139			3			4	
6/27	37			2				
6/28	126			7				
6/29	187			15				
6/30	100			25			8	

continued next page

TABLE 35. COGHILL RIVER WEIR COUNT, 1961, continued

Date	Red Salmon Count			Count of Other Species				
	Daily Total	Weekly Total	Cum. Total	Pink	Chum	Coho	Dolly Varden	Other
7/1	238	899	1438	62	3		13	
7/2	717			256	1		28	
7/3	106			67			17	
7/4	340			408	1		25	
7/5	801			2375	12		58	
7/6	572			1670	5		25	
7/7								
7/8	781	3317	4755	2322	2		21	
7/9	428			1323	3			
7/10	232			418	1		43	
7/11	633			1972	2		295	
7/12	1004			2285	2			
7/13	815			3540	5		62	
7/14	305			2111	7		82	
7/15	159	3576	8331	1964	20			
7/16	184			1682	31			
7/17	20			375	2			
7/18	116			1245	26		33	
7/19								
7/20								
7/21	58	378	8709	566	7			
Grand Total			8709	24698	130		715	2 Bull-heads

The Coghill weir consisted of a fence of trap wire which angled 250 feet across the river. At the south shore end, in the main channel, a tower was erected and fish were counted as they crossed a 8' x 4' background panel in front of the tower. After the arrival of large numbers of pinks in mid-July, counts were unreliable due to many holes forced in the fence. Ground surveys indicated about 40,000 reds spawned in the lake and its tributaries. About 185,000 pinks spawned in the system, of which about 25% spawned above the tower. Nearly all of an estimated 33,000 chums spawned below the tower.

TABLE 36. COGHILL DISTRICT DRIFT GILL NET FISHERY STATISTICS, 1961 1/

CASE PACK <u>2/</u>				CATCH				Ave. Units of Gear
Reds	Pinks	Chums	Cohos	Reds	Pinks	Chums	Coho	
1,246	589	259	1.5	12,961	10,019	2,412	13	25

/ 1961 was the first season for drift gill net fishing in the Coghill District.

/ Case pack determined from the average number of salmon per case at the Cordova Plants.

RAZOR CLAMS

The major razor clam digs began on April 23 after a price settlement of 15 cents per pound, in the shell, was negotiated by the local Fishermen's Association and Alaska Packers Association.

Operations for razor clams were set up at Whittshed, near Cordova, for receiving from the Copper River - Prince William Sound area and on Kanak Island for the Bering River area. The peak, season, harvest and effort, occurred during week 18 when 101,691 pounds were dug by 111 diggers (Table 38, 39 and 40). A lesser peak occurred during week 22, May 28 to June 3, after which the digging success varied until the spring season ended June 30. Some bait digging was done prior to the major operation and again in the fall when the season reopened August 16 (Table 37). The harvest of the last three years has shown a sharp decline from average packs of the last 30 years. This is probably the result of several factors of which the apparent decline in the razor clam population is probably the major contributing factor. The shift of several clam diggers to the salmon fishery and the hiring of inexperienced diggers have also contributed to decreased harvests.

The average season dig per fisherman was 2,074 pounds of razor clams for which was paid \$311.00.

TABLE 37. HAZOR CLAM STATISTICS
PRINCE WILLIAM SOUND AND COPPER RIVER AREAS, 1931 to 1961 1/

SPRING					FALL	
Year	Live Weight	Cases	No. of Diggers	Tides Dug	Live Weight	Cases
1931	1357114		214	7522	No Record	
1932	1833358	46666			No Record	
1933	845746	18668			No Record	
1934	938612	24279		3810	295224	7122
1935	826421	22308		4024	No Record	
1936	957549	21465		3737	No Record	
1937	1111594	26566	223	3989	312339	7154
1938	1270566	31553	269	4881	45065	799
1939	1322447	29920	253	4534	218160	4965
1940	1449299	41075	305	6703	No Record	
1941	792165	20246	145	2943	114296 (2623 ÷ 27 #10 cans)	
1942	1327390	40912	202	2624	No Record	
1943	1583989	45916	184	3721	87613	2482
1944	1638994	46752	162	3967	8739	194
1945	1611328	41998	188	4099	46394	1142
1946	1626226	47430	190	4922	119977	3194
1947	579482	17605	160	1772	27058	588
1948	1121074	31941	220	3927	33829	784
1949	1449778	40735	350	5262	28477	670
1950	1464532	38482	370	5524	55804	1294
1951	1501074	38310	347	5344	34045	645
1952	1256287	31879	204*	3925*	9143	220
1953	1485937	39184	306*	5236*	None	
1954	1216758	31478	189*	5165*	Almost None	
1955	1372829	36071	333*	6377*	4280	70
1956	703659	21477	201*	3053*	3690	
1957	1017418	27774	268*	5743*	Almost None	
1958	32395	831	Strike		None	
1959	507731	13017	183	3196	Almost None	
1960	433930	10367	284		None Reported	
1961	259250 2/	6868	111		2378 (Used for Bait)	

1/ Case pack on basis of 48- $\frac{1}{2}$ pound per case.

2/ Includes 28,973 pounds used for bait.

* Major canner only.

Table 38 - 39. Razor Clams, Weekly Dig and Case Pack

BERING - COPPER RIVER, 1961

BERING RIVER			
Week	Total Dig Beach Weight	Landings	Cases ²⁴ (24-1#) 1#cs. 1/
17	2795	33	140
18	27431	159	1372
19	8538	81	427
20	4284	38	142
21	8621	95	431
22	13959	105	698
23	3596	57	180
24	3552	48	178
	72776 118	616	3568

COPPER RIVER				
Week	Total Dig Beach Weight	Crab Bait Pounds	Landings	Cases ^{1/} (24-1# /cs.) ₂₄
3		150	1	
17	2070		9	104
18	43589		216	2180
19	5152		35	258
20	646		3	32
24	2809		21	141
25	574		7	29
26	4848		29	242
35		60	1	
36		56	1	
	59688	266	323	2986
	186			

1/ Calculated on the basis of 20 pounds per case.

Table 40. Razor Clams, Weekly Dig and Case Pack
Prince William Sound, 1961

Week	Total Dig Beach Weight	Crab Bait Pounds	Landings	Cases (24 ¹ / ₂ #/cs.) ¹ / ₂
8		100	1	
9		455	1	
11		545	1	
12		1856	8	
13		570	6	
14		5088	19	
15		1710	7	
16	4458	2303	17	223
17	5265	1405	53	263
18	30571	4479	248	1534
19	12867	6766	184	643
20	3528	646	60	176
21	3020	117	40	151
22	15057	98	135	753
23	2736	259	41	137
24	7490	678	99	375
25	1572	327	18	79
26	12967	1521	78	648
34		843	3	
35		536	3	
39		1419	12	
	99631 112,32	29418	1034	4982

887

¹/₂ Calculated on the basis of 20 pounds per case.

DUNGENESS CRAB

The Dungeness crab fishery is the only year around fishery of Cordova and contributes substantially to the economy of the area through both the fishermen and the employment of cannery workers.

The harvest of 2,756,194 pounds in 1961 compares to a previous high harvest of 2,877,020 pounds in 1950 (Table 41).

Dungeness crab appeared to be in relatively good condition during most of the year and large catches were taken, particularly from "outside" areas along the gulf. The good condition of crabs from "inside" waters within the southeast corner of Prince William Sound, prompted an extension of the season which regularly closed during June, July and August.

Approximately 65 boats participated in the Dungeness crab fishery of which about 35 boats also fished "outside" waters. The average season catch per boat produced a value of approximately \$1,399.00 for "inside" fishing and \$2,750.00 for "outside" fishing.

Table 42 summarizes data taken from a selected sample of crab pots in Orca Inlet in 1961.

TABLE 41. DUNGENESS CRAB CATCH
PRINCE WILLIAM SOUND, COPPER AND BERING RIVER, 1936-1961 1/

Year	Catch in Crabs	Approx. Pounds	Outside Crab
1936	508799	1817598	-
1937	1184419	2368838	-
1938	665720	1331440	-
1939	585804	1171608	-
1940	540757	1081514	-
1941	1057701	2115402	-
1942	305952	611904	-
1943	291211	582422	-
1944	491485	982970	-
1945	813617	1627234	-
1946	1110314 (First outside fishing)	2220628	-
1947	832451	1664902	-
1948	743435	1486870	-
1949	803302	1606604	-
1950	1438510	2877020	8 boats outside (First effective outside fishing-Total 43 boats)
		Total	
Year	Approx. Crabs	Catch in Pounds	Outside Crab
1951	1338569	2677138	1459260
1952	509288	1018576	
1953	627942	1255884	
1954	752855	1505710	
1955	982414	1964829	1135000
1956	406422	812844	No outside fishing
1957	108562	217123	No outside fishing
1958	596459	1192918	No outside fishing
1959	1247143	2494287	1340788
1960	1361235	2722470	1198144
1961	1378097	2756194	1765952

1/ Pounds reported in live weight. A two pound average weight per crab was used to convert crabs to pounds for the years 1936 to 1950 and from pounds to crabs for the years 1951 to 1961.

TABLE 42. SUMMARY OF DUNGENESS CRAB DATA FROM SELECTED SAMPLES

"Inside Waters", Prince William Sound 1/

Area	Date	No. Pots	No. Crabs	No. Pounds	Ave. Crab Per Pot	Ave. Pound Per Crab
Orca Inlet	6/28/61	57	823	1,812	14.43	2.20
Orca Inlet	6/29/61	74	973	2,115	13.15	2.14
Orca Inlet & Simpson	7/1/61	73	834	1,969	11.41	2.36
Orca Inlet	7/5/61	89	1,581	3,254	17.76	2.05
Orca Inlet	7/7/61	95	1,028	2,156	10.82	2.10
Orca Inlet	7/12/61	?	1,897	4,097	--	2.15
Orca Inlet	7/13/61	100	1,513	3,313	15.13	2.19
Orca Inlet	7/14/61	100	1,258	2,676	12.58	2.13
Orca Inlet	7/18/61	100	1,679	3,657	16.79	2.18
Orca Inlet	7/20/61	100?	983	2,106	9.83	2.14
Orca Inlet	7/21/61	100?	872	1,875	8.75	2.15
Orca Inlet	7/24/61	100	1,564	3,368	15.64	2.15
Orca Inlet	7/28/61	100	1,721	3,703	17.21	2.15
Orca Inlet	7/31/61	100	1,356	2,887	13.56	2.13
Orca Inlet	8/31/61	100?	385	836	3.85	2.17
Orca Inlet	9/3/61	100	1,761	3,863	17.61	2.19
Orca Inlet	9/7/61	100?	966	2,034	9.66	2.11
Orca Inlet	9/9/61	100?	624	1,320	6.24	2.12
Orca Inlet	9/13/61	100?	749	1,610	7.49	2.15
Orca Inlet	9/16/61	100?	798	1,670	7.98	2.09
Orca Inlet	9/20/61	100?	741	1,518	7.41	2.05

1/ Information from Jack deVille.

TABLE 43. SUMMARY OF COMMERCIAL FISHING LICENSES AND RECEIPTS, 1961

COMMERCIAL FISHING LICENSES					GEAR LICENSES					
	Fishermen	TEndermen	Vessels	1/ Drift Gillnet	Seine	Gillnet	Clams	Crabs	Troll	Long Line
Resident	483	14	452	293	97	42	165	46	9	7
Nonresident	212	35	196	129	23	8	61	17	-	-
TOTAL	695	49	648	422	120	50 2/	226	63	9	7

LICENSE RECEIPTS	
Resident	\$4,230. \$140. \$4,520. \$4,395. \$4,350. \$500. \$825. \$750. \$135. \$175.
Nonresident	3,180 525. 5,880. 5,805. 3,450. 240. 915. 1,395. - -
TOTAL	\$8,010. \$665. \$10,400. \$10,200. \$9,300. \$740. \$1,740. \$2,145 \$135. \$175.

1/ 1961 Cordova figures include 13 nonresident and 8 resident tenders and power scows.

2/ Includes 150 fathoms, 25 fathoms, etc.

TOTAL RECEIPTS - \$42,808.00

TABLE 14. COMMERCIAL FISHING LICENSES STATISTICS, CORDOVA AREA
1961 1/

	Fished Cordova 1961	Total Sold 1961	Total Sold 1960
COMMERCIAL FISHING LICENSES			
Resident	501	497	601
Nonresident	244	247	566
Total	745	744	1,167
VESSEL LICENSES 2/			
Resident	433	452	493
Nonresident	188	196	312
Total	621	648	805
GEAR LICENSES			
Resident Troll Line (incl. special)	10	9	15
Nonresident Troll Line	1	-	1
Total	11	9	16
Resident Set or Long Line	7	7	6
Nonresident Set or Long Line	-	-	2
Total	7	7	8
Resident Drift Gill Net	270	293	263
Nonresident Drift Gill Net	116	129	167
Total	386	422	430
Resident Set Gill Net 3/	37	42	7
Nonresident Set Gill Net	7	8	7
Total	44	50	14
Resident Purse Seine	85	97	142
Nonresident Purse Seine	20	23	92
Total	105	120	234
Resident Shellfish Pots	50	46	34
Nonresident Shellfish Pots	17	17	14
Total	67	63	48
Resident Clam Diggers	167	165	206
Nonresident Clam Diggers	61	61	78
Total	228	226	284

1/ Report on license statistics as compared for 1961 and 1960, through November 8, 1961.

2/ 1961 figure include 13 nonresident and 8 resident tenders or power scows.

3/ Includes 150 fathoms, 25 fathoms, etc. - 81 -

TABLE 15, PRINCE WILLIAM SOUND and COPPER RIVER-BERING RIVER AREAS, 1961

Year 1961

Regulatory Area CORDOVA

Time Open to Fishing Expressed in Hours per Day

Districts												
Sections	Copper Bering River	Copper Bering River	Coghill	Copper Bering River	Coghill	Eshamy	Copper Bering River	Eshamy	P.W.S.	1/	Copper Bering River	
Month	MAY	JUNE		JULY			AUGUST				SEPTEMBER	
1		6		6	12	C	24	24	12		24	
2		24		C	C	C	6	24	C		6	
3		6		18	12	12	6	24	C		C	
4		C		24	24	24	24	24	12		18	
5		18		6	24	24	6	12	C		24	
6		24		6	24	24	C	C	C		24	
7		6		24	24	24	18	12	C		24	
8		6		6	12	12	24	24	12	2/	24	
9		24		C	C	C	24	24	C		6	
10		6		18	12	12	24	24	C		C	
11		C		24	24	24	24	24	C		18	
12		18	12	6	24	24	6	12	12		24	
13		24	24	6	24	24	C	C	12		24	
14		6	24	24	12	24	18	12	12		24	
15	18	6	24	6	12		24	24	12	3/	24	
16	24	24	24	C		C	24	24	12		6	
17	6	6	12	18		12	24	24	12		C	
18	6	C	C	24		24	24	12	12		18	
19	24	18	12	6		24	6				24	
20	6	24	24	6		24	C				24	
21	C	6	24	24		24	18				24	
22	18	6	24	6		12	24				24	
23	24	24	24	C		C	24					
24	6	6	12	18		12	24					
25	6	C	C	24		24	24					
26	24	18	12	6		24	6					
27	6	24	24	6		24	C					
28	C	6	24	24		24	18					
29	18	6	24	6		12	24					
30	24	24	24	C		C	24					
31	6	xxxxxxx		18		12	24					
Total open hours												
Days during mo. of	MAY	JUNE		JULY			AUGUST				SEPTEMBER	
Seasonal opening: Traps												
Purse Seines									120			
Drift Gillnets	216	366	348	360	228	492*	516	324*			384	
Seasonal closing: Traps												
Traps												
Seines												
Gillnets												
OPENING AND CLOSURES OF DISTRICTS												
		Copper-Bering River		5/15-9/22							Prince William Sound	
		Coghill Dist.		6/12-7/14							8/1-8/18	
		Eshamy Dist.		7/1-8/18								

Remarks:

* Set Gill Net &
Drift Gill Net

C - Closed

1/ Eastern & Southeastern Dist. (8/1 and 8/4)

2/ Eastern, Southeastern & Montague Dist. (8/8, 12, 13, 14,)

3/ Port Fidalgo only. (8/15, 16, 17, 18,)

TABLE 46: PRINCE WILLIAM SOUND and COPPER RIVER-BERING RIVER AREAS, 1960

Year 1960

Regulatory Area CORDOVA

Time Open to Fishing Expressed in Hours per Day

stricto

Sections	Copper Bellevue River	Copper Bellevue River	Copper Bellevue River	P.W.S. General	Copper Bellevue River	P.W.S. General	Copper Bellevue River
Month	MAY	JUNE	JULY	AUGUST	SEPTEMBER		
1		6	24	18	C	24	
2		6	6	24	12	24	
3		24	C	6	12	6	
4		6	18	6		C	
5		C	24	24		18	
6		18	6	6		24	
7		24	6	C		24	
8		6	24	18		24	
9	18	6	6	24		24	
10	24	24	C	24		6	
11	6	6	18	24		C	
12	6	C	24	24		18	
13	24	18	6	6		24	
14	6	24	6	C		24	
15	C	6	24	C		24	
16	18	6	6	C		24	
17	24	24	C	C		6	
18	6	6	18	24		C	
19	6	C	24	24		18	
20	24	18	6	24		6	
21	6	24	6	24		C	
22	C	6	24	C		18	
23	18	6	6	C		24	
24	24	24	C	C		24	
25	6	6	18	24		24	
26	6	C	24	24		24	
27	24	18	6	24		6	
28	6	24	6	24		C	
29	C	6	24	C		18	
30	18	6	6	C		24	
31	24	xxx	C	C		24	
Total open hours during mo. of	MAY	JUNE	JULY	AUGUST	SEPTEMBER		
Seasonal opening: Traps							
Seines			288	24			
Gillnets	294	348	366	510	408		
Seasonal closure: Traps							
Seines							
Gillnets							

OPENING AND CLOSURES OF DISTRICTS

Copper-Bering Rivers 5/9 - 9/23
Prince William Sound 7/11- 8/3

- 81b -

Upper Copper River - 1961

Escapes

(177)

Red salmon counts

King salmon counts

TABLE 4B: SUMMARY OF SALMON SPawning SURVEYS
Lower Copper River & Bering River - 1961

Ground Surveys					
Name	Date Surveyed	Red Salmon	Percent Spawning	Remarks	Fish
Tokun Lake	7/22/61	2,107	25%		3 seen
Eyak Lake-Power Creek	7/24/61	463, 1 pink	--		None
Bering Lake-Dick Creek	7/23/61	7,164			None
Kushutaka Lake (Inlet Strms.)	7/23/61	2,305			None
Martin Slough	7/27/61	3,011	100% (1/3 dead)		None
Martin Lake & Tributaries	7/22/61	2,415	100%		None
Totals		17,465			3
AERIAL SURVEYS					
Name	Date Surveyed	Red Salmon	Percent Spawning	Remarks	
Small unnamed lake below Martin Lake at mouth of outlet	7/13/61 (3:30PM)	200			
Martin Lake	7/13/61	200		Small school seen in lake.	
Martin Lake tributaries on south end	7/13/61	500 Rt. fork 200 Lft. fork			
Small unnamed lake above Martin Lake	7/13/61	200		One small school seen.	
Little Martin Lake, South side streams	7/13/61	75			
Clear stream between Little Martin and Tokun Lakes	7/13/61	500		(schooled)	
Lake Tokun	7/13/61	5,000	100%	Spawning	

TABLE 48. SUMMARY OF SALMON SPawning SURVEYS, continued
Lower Copper River & Bering River - 1961

AERIAL SURVEYS, continued

Name	Date surveyed	Red Salmon	Percent Spawning	Remarks
Small Stream and Bog Lake out from Mile 39, against Mountain	7/13/61	100		(schooled)
Martin Slough	7/13/61	1,300 East Fork 1,400 West Fork		(spawning) (spawning)
Shepard Creek at mouth Carbon Creek	7/13/61	200		(schooled)
Kushtaka Lake, East side small stream mouth	7/13/61	1,000		(schooled)
Bering Lake, Dick Creek	7/13/61	6,000		(few spawning)
Bering Lake, small stream south of Dick Creek	7/13/61	200		(schooled)
Total		16,875		

* Includes only North Arm streams and Middle Arm.

** Includes only Dick Creek and Bering Lake immediately adjacent to Dick Creek.

Table 49. Herring Catch From Prince William Sound, 1961 1/ 2/

Week	Boats	Landings	Pounds
1	2	3	700
2	4	6	1700
3	4	4	1400
4	4	6	1600
5	4	7	2400
6	3	7	1600
7	4	6	1600
8	3	7	1200
9	3	4	800
10	3	5	1200
11	2	2	500
12	3	5	800
13	2	2	400
14	1	1	400
15	2	2	360
16	2	2	480
17	3	5	1870
18	1	1	400
19	1	1	400
21	1	1	1700
22	3	3	3605
25	1	1	1600
37	1	1	200
39	1	1	260
40	1	3	230
41	1	2	135
42	1	2	200
43	1	2	200
44	1	2	160
45	1	1	100
50	1	1	65
51	1	1	80
	66		27,625

1/ Used for crab bait.

2/ Refer to the 1960 Annual Report for a summary of herring production from 1931 to 1960.

Table 50. Miscellaneous Fish Catch in Pounds - 1961

Week	Flounder	Lingcod	Rockfishes	Red Snapper	Sablefish
1	1100				
21		88			666
24			26		
25				43	
28		15			
30		136			
31					2047
33		14			
34			330		
Total	1100	253	356	43	2713

PERSONNEL

The Commercial Fisheries Division employed 6 permanent and 18 seasonal employees in the Cordova Management Area in 1961. Following is a list of the personnel, general assignment of duties and the dates of employment.

Permanent Employees - 1961

Ralph B. Pirtle	Area Management Biologist
Wallace H. Noerenberg	Assistant Area Management Biologist
Howard Netsker	Fishery Biologist
Bertha Allen	Clerk-Stenographer
Elnora Campbell	Clerk-Stenographer
David G. Savoie	Fishery Biologist

Seasonal Employees - 1961

<u>Name</u>	<u>Assignment</u>	<u>Dates of Employment</u>
Lone Janson	License clerk	3/27/61 to 4/19/61
James E. King	FRY SAMPLING Tag Recoveries in Streams	4/1/61 to 4/30/61
Paul Mulcahy	Stream Survey, Egg Sampling, Fish Tagging, Tag Recoveries in Streams, Protection Assistant	4/1/61 to 8/27/61
Howard Evans	Copper River Flats Fish Tagging Protection Assistant	7/23/61 to 8/2/61
Phyllis Wickett	Clerk-typist	5/15/61 to 6/30/61
William Winn	Copper River Fishwheel Tagging and Sampling	5/15/61 to 9/30/61
Richard Gardner	Copper River Fish Tagging Protection Assistant	5/29/61 to 8/5/61
James Higgins	Coghill and Eshamy Fish Counting Weir, Protection Assistant	6/5/61 to 9/18/61
James Partin	Copper River Fishwheel Tagging and Sampling, Protection Assistant	6/5/61 to 8/10/61
Richard Schasck	Upper Copper River Stream Surveys, Protection Assistant	6/15/61 to 9/5/61

<u>Name</u>	<u>Assignment</u>	<u>Dates of Employment</u>
John Ballard	Upper Copper River Stream Surveys Protection Assistant	7/6/61 to 8/31/61
A. Gregory Cervais	Fisheries Office Work, Upper Copper River Stream Surveys, Fish Tag Recovery and Protection Assistant	7/1/61 to 9/13/61
Joseph Whitmore	Eshamy Weir Fish Counting Station	7/1/61 to 8/15/61

CRASH PROGRAM EMPLOYEES

Wallace H. Moerenberg, DAVID SAVOIE HOWARD MEISKER Robert Blake	Supervisor PROJECT LEADER PWS TAGGING P.W.S. STREAM CATCHING Stream Tag Recoveries, Preliminary Analysis of Tagging Data	8/24/61 to 9/30/61
James Borden	Stream Tag Recoveries and Surveys	9/1/61 to 9/12/61
E. Spaulding Clark	Stream Tag Recoveries, Records and Preliminary Analysis of Data from Tagging.	7/1/61 to 9/8/61
Robert Winner	Stream Tag Recoveries	7/1/61 to 9/1/61
Douglas Peterson	Copper River Tagging, Tagging and Stream Tag Recoveries	6/14/61 to 8/31/61

In addition, the M/V SHRIKE was chartered for spring fry survival studies, with George Discher as operator-owner, the M/V ROBERT skippered by Basil Ferrier and the M/V MISS CHARLOTTE, skippered by ^{Don Tetzlaff} William Caughman was chartered for stream recovery of tags, and the M/V REBEL, skippered by Roy Dettinger and the M/V ST. THERESE, skippered by Jack Downing was chartered for purse seining to tag salmon.

Summary of 1961 Federal Emergency Salmon Research Programs

Two projects of the several contracted to the Department were conducted and administered by the Commercial Fisheries Division Cordova Office. One project was salmon tagging studies in the commercial fishery waters of Prince William Sound. This was a one-year project to complete voids in data from previous Saltonstall-Kennedy tagging programs conducted by the University of Washington in 1957 and 1958. The second project was a two-year contract to prepare a catalog of all available data on Prince William Sound streams and their past escapement of salmon.

The total salmon tagged in 1961, was 13,388, including 10,972 pinks and 1,719 chums. The commercial fishery ^{was restricted} ~~restricts~~ to the Eastern, Southeastern and Montague Districts ^{and} returned 1411 or 10.5% of the tags and extensive stream surveys recovered 1,757 or 13.1% of the tagged fish. The major emphasis in 1961 was on the early July races and tagging was restricted to the period July 3 - 29. All tagging was conducted from two chartered purse seine boats, fishing a variety of locations where commercial catches are normally significant and where racial composition of the catches is in doubt.

The collection of past escapement data on Prince William Sound streams was augmented by additional foot surveys to describe and measure the spawning grounds. Though not included in the catalog budget, this field work was made possible by tag recovery surveys in progress. Aerial photos of all streams were purchased from the U.S. Forest Service file to aid in accurate mapping. While data collections were practically complete in 1961, preparation of the material for publication will require continued work throughout 1962.

APPENDIX

The 1961 management program included several projects not reported, giving detail in this report. These projects, listed below, will be compiled as separate reports. The salmon crash projects are listed and discussed elsewhere in this text.

Shrode Creek Falls:

This will be a cooperative venture of the Alaska Department of Fish and Game and the U. S. Forest Service to improve fish passage in Shrode Creek. Preliminary plans were made in 1961 to initiate this project in 1962. A progress report will be forthcoming in 1962.

Aerial and Ground Surveys of Prince William Sound Salmon Spawning Streams:

This work is partially covered in this report, however, an analysis of the run and a prediction of the future run will be covered in a separate report.

Prince William Sound Reproduction Studies:

This work was carried out by Wallace H. Noerenberg, as a part of a continuing project. An analysis of the data with a prediction of the future run will be reported separately.

Bering River and Copper River Physical and Biological Inventory:

This is a continuing project on the Copper River and its tributaries to collect information on salmon spawning areas. Mr. George Van Wyhe, Sport Fish Biologist, has cooperated and supervised this work in the upper drainage.

The lower tributaries of Copper River and the Bering River drainage were covered by personnel from the Cordova office.

Copper River Adult Salmon Tagging:

This is a continuing project initiated in 1960. The tagging was conducted by a two-man crew capturing salmon in drift gill nets on the Copper River tidal flats and by a two-man crew using a large fishwheel in the lower Copper River.

Tag recovery was accomplished in the commercial fishery and by field crews on the spawning grounds. An analysis of the tagging data will be forthcoming in a separate report.

Razor Clam and Crab Studies:

A Mr. Herb Tegelberg, Biologist from the State of Washington, was contracted on a consulting basis to conduct a study of the shellfish resources near Cordova. A separate report was submitted at the conclusion of the study which contained an analysis of data collected and recommendations for further studies.